December 1999

Port Enhancement Analysis

Phase I:

Port Workload Requirements for the East Coast Ports

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Transportation Engineering Agency

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INTRODUCTION

This is Phase I of a two-phase study.

- Phase I identifies the quantity of cargo DOD plans to send through the seaport, and
- Phase II considers the ports' ability to handle their assigned workload.

The Military Traffic Management Command's Transportation Engineering Agency (TEA) has analyzed ports for years. With our Ports for National Defense Program, we survey the ports that are important to national defense, defining their capabilities. We then compare these capabilities to the demand imposed by a notional unit deploying through the port. From this, we assess the port's ability to meet its requirements. This methodology has suited us well in the past. However, as the deployment windows continue to shrink, we are forced to get our CONUS-based deploying forces through the ports faster than ever before. Compound this with the continued economic expansion in many of these areas, and it is becoming a challenge for the ports to dedicate real estate and facilities to respond to our requirements. This is particularly true in the early days of a contingency.

As a result, TEA realized the need for a more precise assessment of each port's ability to meet its requirements. We realized the need to base each port's requirements on the most demanding operation plan (OPLAN) for that port. Using our modeling capability, we can work with the tremendous quantity of information in an OPLAN time-phased force deployment data (TPFDD), massage the data, and extract the detail needed to get an accurate picture of the deployment through each port.

Port of Charleston

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Virginia Port Authority

OBJECTIVES

The objectives of this initiative are:

Phase I:

(1) Define the OPLAN-based time-phased flow of cargo through the port during a demanding deployment. This flow is defined in terms of quantity and square feet.

(2) Allow planners to assign Transportation Terminal Brigades/Battalions (TTBs) to ports based on workload.

(3) Allow TTBs to adequately prepare for deployment operations.

(4) Validate the need for deploying units to support Sea Ports of Embarkation (SPOEs).

Phase II:

(1) Assist the port commander in quantifying real estate and facility support needed from the port.

(2) In instances where the port cannot meet their requirements, provide the quantitative basis to help both DOD and commercial planners assess potential "fixes." These fixes could include:

- Re-routing cargo to another port in the region,
- Re-timing the flow,
- Working through the local and metropolitan planning organizations to solicit federal funds, or possibly even
- Identifying areas where dollars could potentially be applied.

METHODOLOGY

When practical, ports are analyzed on a regional basis. This allows planners to examine an entire region at one time, evaluating peaks and valleys at groups of neighboring ports. In this case, the Ports of Charleston, Hampton Roads, Jacksonville, Morehead City, Savannah and Wilmington are all represented in the time-phased force deployment data (TPFDD). Therefore, they are all considered in this analysis.

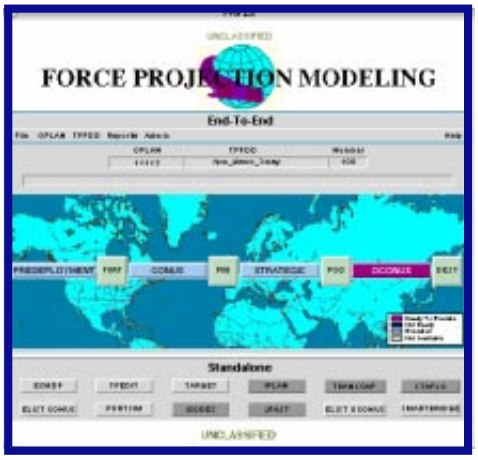
The following tools are utilized to analyze port workload:

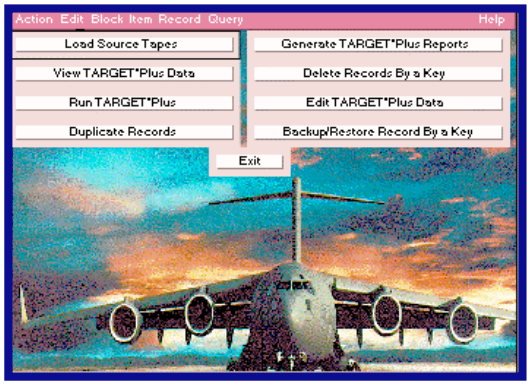
TPEDIT (TPFDD Editor) – An integrated set of automated processing tools that provides TPFDD editing and analysis capability. TPEDIT allows the analyst to:

- View the TPFDD graphically.
- Extract information for the seaport of embarkation (SPOE) of interest.
- Edit the TPFDD. Remove "on-call" and "shortfalled" records. Clean up data issues.
- Review data to determine the amount of cargo (number or ULNs/CINs, quantity, square feet, short tons, measurement tons) flowing through the port.

EXPANDED TPFDD - A database shared by the simulation models and used for tracking movement requirements at the individual item level of detail. Using the Expanded TPFDD the analyst can:

- Load the TPFDD into the Oracle database management system.
- "Expand" the TPFDD cargo detail within Oracle to Level 6 for the SPOE of interest.





TARGET (Transportability Analysis Reports Generator) – A system of models and programs that provide the capability to generate movement requirements at the individual item level of detail (Level 6). The system merges force structure data from the Table of Organization and Equipment (TOE) or the Modified TOE (MTOE) with equipment characteristics from the Department of the Army Standard Equipment Characteristic File (ECF) to create unit equipment tables. With TARGET, the analyst:

- Assigns transport modes by ULN/CIN (convoy/rail).
- Selects transport assets.
  Containers (20’ and 40’)
  Railcars (89’ flatcars, 60’ flatcars, 68’ DODX railcars).
- Determines convoy, rail, and container requirements.

FPM REPORTS – A set of customized reports extracts detailed cargo information from TARGET output files. These reports, when imported into Microsoft Excel, are the foundation of the port workload effort. The graphs are included in the results section of this report.

ASSUMPTIONS

- The requirements in this report represent:
  - The entire duration of the flow through the ports of Charleston, Hamtpon Roads, Jacksonville, Morehead City, Savannah and Wilmington as defined by the operation plan (OPLAN).
  - All records in the plan scheduled to move by sea under Military Sealift Command's (MSC) control.
  - The most demanding plan for each port. The plans may not necessarily be representative of the flow during an actual deployment.
- TPFDD Records not included in this analysis:
  - "On-call" records. These records are in the plan but are not scheduled to move – they appear with an available to load date (ALD) of 999.
  - "Shortfalled" records. These records are in the plan but are not sourced – they have not been matched with a specific unit.
  - Bulk petroleum, oils, and lubricants (POL) records (packaged POL is included).
- TARGET uses the following transport assets:
  Containers (20-foot, 40-foot)
  Convoy Vehicles (self-propelled, towed)
  Railcars (89-foot flatcars, 60-foot flatcars, 68-foot DODX railcars)
  NOTE: Commercial Motor was not utilized
- Containers are stuffed at their origin.
- TARGET stuffs containers and loads railcars with unit integrity. In addition, TARGET will not mix unit equipment and containers on the same railcar. This provides a conservative estimate of containers and railcars for each unit.
- If the origin is less than 400 miles from the seaport of embarkation (SPOE), roadable vehicles convoy from origin to SPOE. If the origin is greater than 400 miles from the SPOE, roadable vehicles are loaded onto railcars for transport to the SPOE. All nonroadable vehicles are loaded onto railcars for transport to the SPOE.
- The breakbulk category includes cargo coded in the TPFDD as containerizable with dimensions exceeding the allowable dimensions of a 20-foot container and nonvehicular cargo coded as noncontainerizable.

RESULTS

The results of this analysis for the Ports of Charleston, Hampton Roads, Jacksonville, Morehead City, Savannah and Wilmington (Figure 1) are in Appendix A through F, respectively. The graphs in each appendix represent the cargo arriving at that port, as outlined in the TPFDD. They show the quantity and square footage of containers, vehicles, aircraft, floating craft, and breakbulk cargo items. Since "vehicles" is such a broad category it is divided into categories as outlined in Table 1.

Table 1
Categories of Vehicles

	Wheeled Vehicles	Tracked Vehicles
Light	Less than 5 ST	Less than 20 ST
Medium	5-30 ST	20-35 ST
Heavy	Greater than 30 ST	Greater than 35 ST

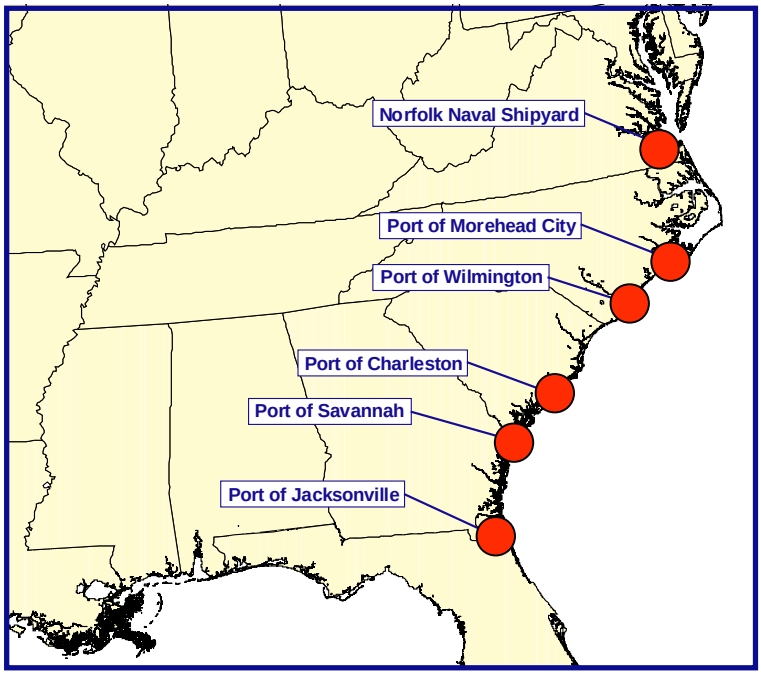


Figure 1. Seaports of Interest

APPENDIX A

PORT OF CHARLESTON

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According to the TPFDD, there are approximately 80 origins sending cargo to the Port of Charleston. The major origins are shown in Figure A-1. Origins sending less than 100 items or less than 20,000 square feet of cargo are listed in Table A-1. Charleston receives a mix of Army, Navy, Air Force, and Marine Corps cargo. Origins in excess of 400 miles send all of their cargo to the Port of Charleston by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. All aircraft self-deploy to the port. Figures A-2 through A-6 show the quantity of transports (containers, railcars, self-deploying aircraft, and convoying vehicles) required to move to the Port of Charleston.

Figures A-7 through A-13 illustrate the quantity of items arriving at the port. Figure A-7 is the total quantity of items. Figures A-8 through A-13 break this down into more detail. Figures A-8 and A-9 are the quantity of vehicles arriving at the port. Figure A-8 outlines the wheeled vehicles and Figure A-9 lays out the tracked vehicles. Figure A-10 shows the quantity of aircraft arriving at the port. These are mostly helicopters, and all move to the port under their own power. Figure A-11 is the number of floating craft arriving at the Port of Charleston. Figures A-12 and A-13 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures A-7 through A-13, which lay out the quantity of items arriving, Figure A-14 through A-20 outline the square footage of these categories of cargo.

Figures A-21 through A-28 show how cargo is arriving at the Port of Charleston. Figure A-21 through A-24 shows the number of cargo items arriving by convoy, rail, or self-deploying. Figures A-25 through A-28 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Charleston from many origins. Figure A-29 shows visually the amount of cargo coming from the major origins.

Figures A-30 and A-32 show the quantity and square footage, respectively, of cargo arriving at the Port of Charleston by origin. Figure A-31 is the quantity of containers arriving at the Port of Charleston from each origin.

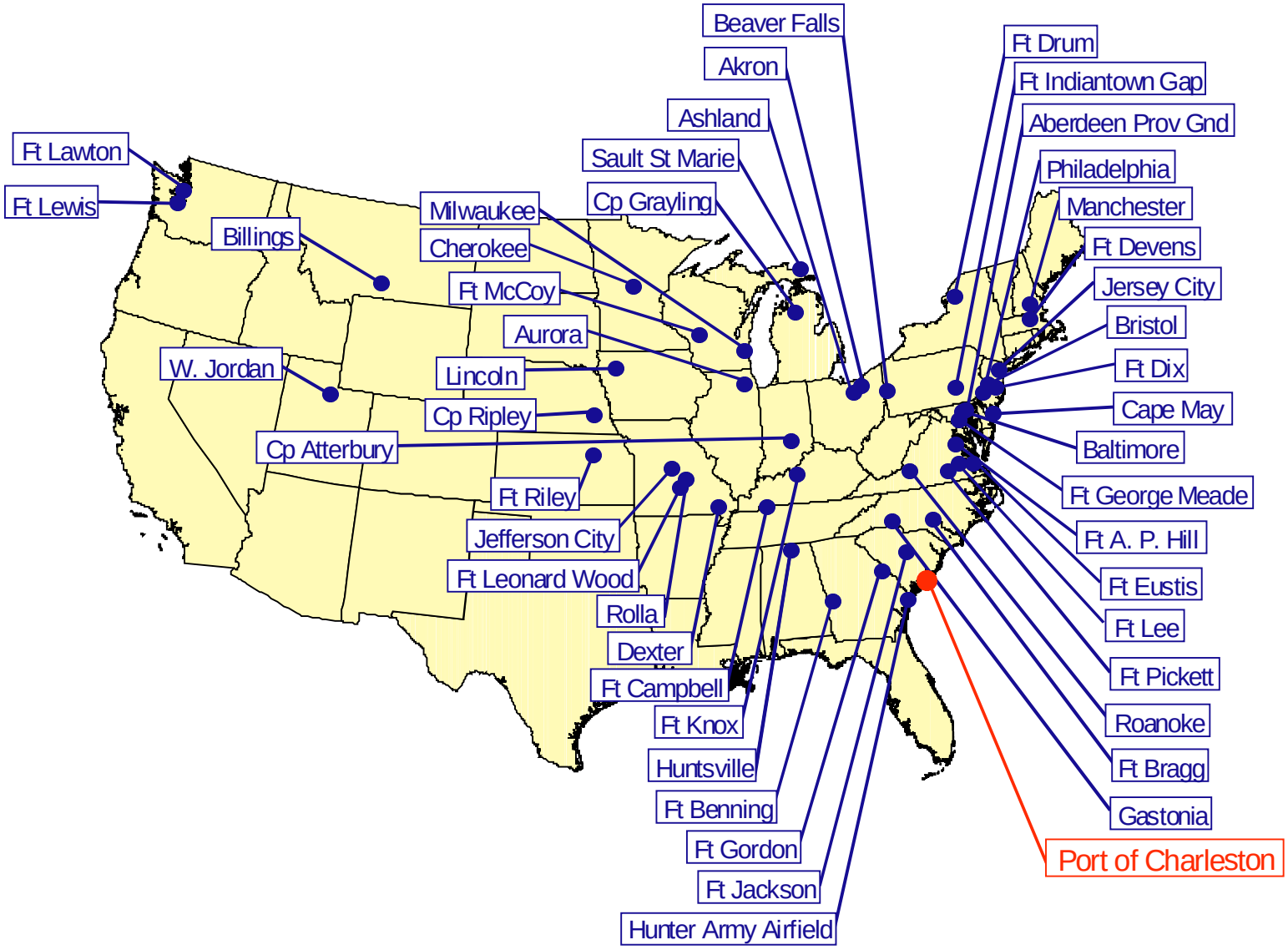

Figure A-1. Cargo Arrives at the Port of Charleston from Many Origins

Table A-1
Origins Sending Cargo to the Port of Charleston
(Origins not in Figure A-1)

Casper, WY
Ogden, UT
Shaw AFB, SC
Brockton, MA
Hempstead, NY
Middletown, RI
Warren, RI
Warwick, RI
Hartford, CT
Blackstone, VA
KingsMill Ord Pl, OH
Lafayette, IN
Athens, AL
Fort Hayes, OH
Fort Totten, NY
Roseau, MN
Crane AAP, IN
Fort Story, VA
Cando, ND
Clinton, MA
Nashville, TN
Arden Hills, MN
Volk Field, WI
Letterkenny Depot, PA
Allendale, SC
Fulton, MO
Selfridge ANGB, MO
Trenton, NJ
Tacoma, WA
Baldin, NC
Yorktown NWS, VA
Earle NWS, NJ
Pope AFB, NC
Williamsburg, VA
Charleston NWS, SC

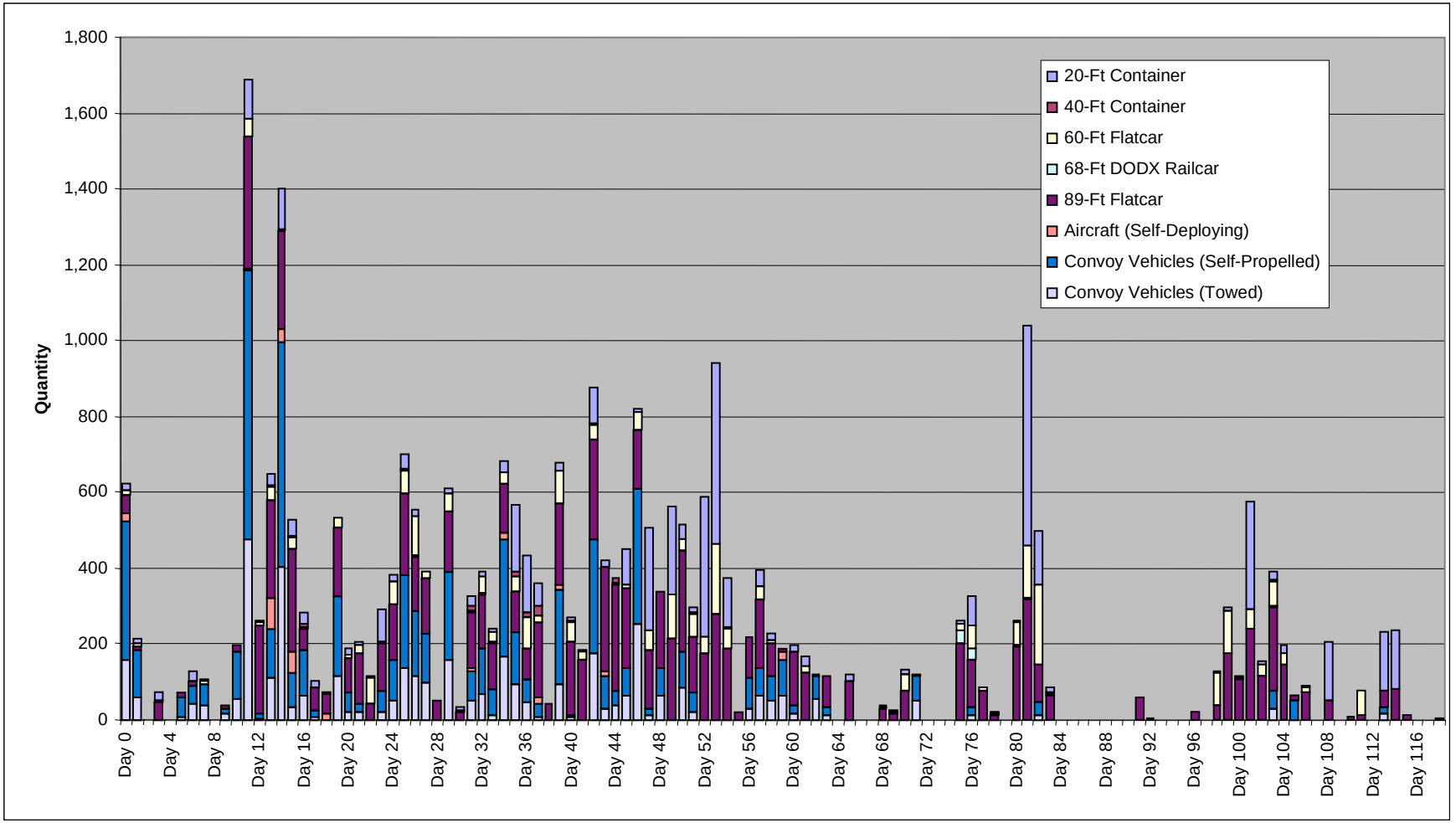

Figure A-2. Total Quantity of Transports Arriving at the Port of Charleston

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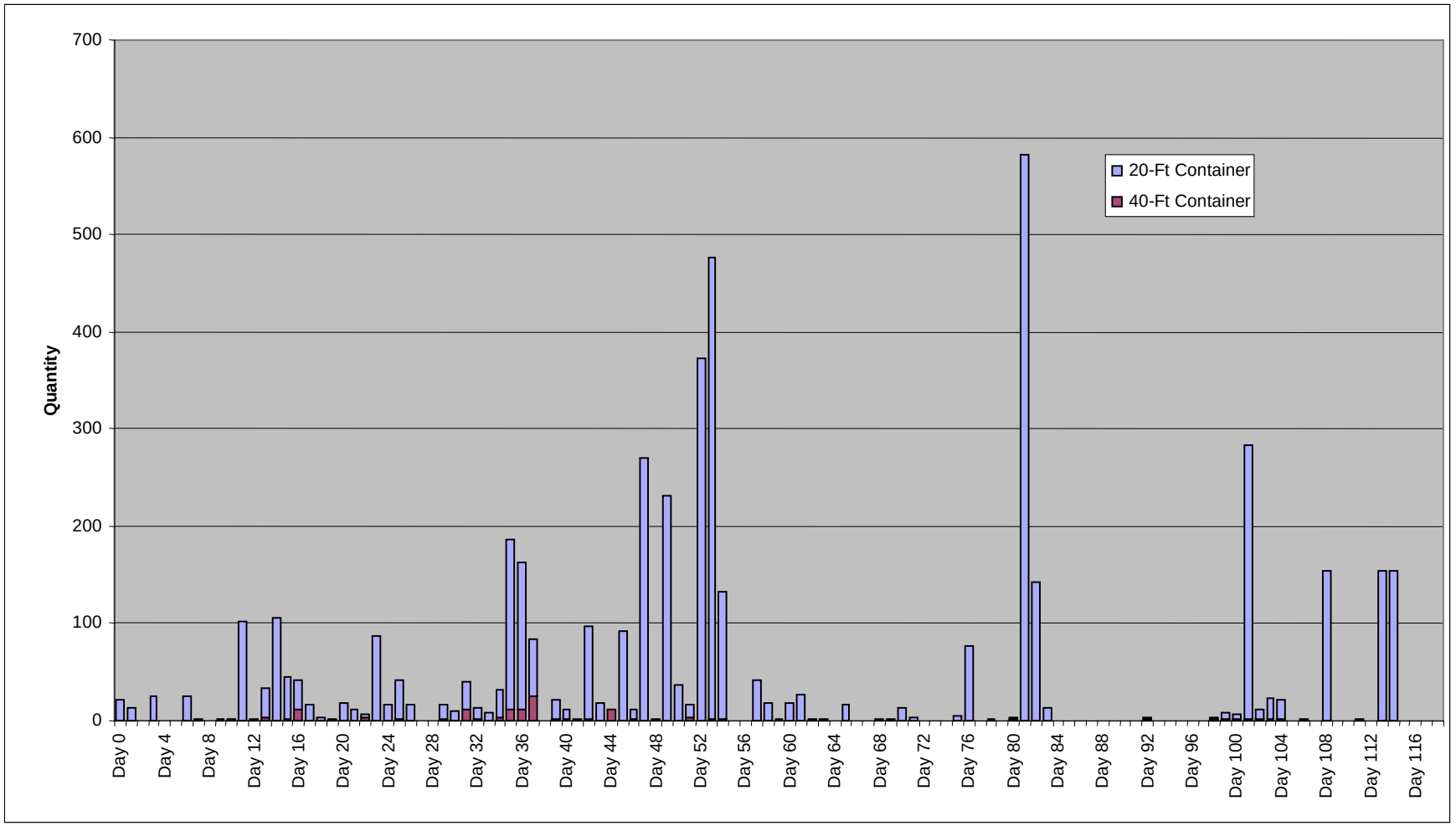

Figure A-3. Quantity of Containers Arriving at the Port of Charleston

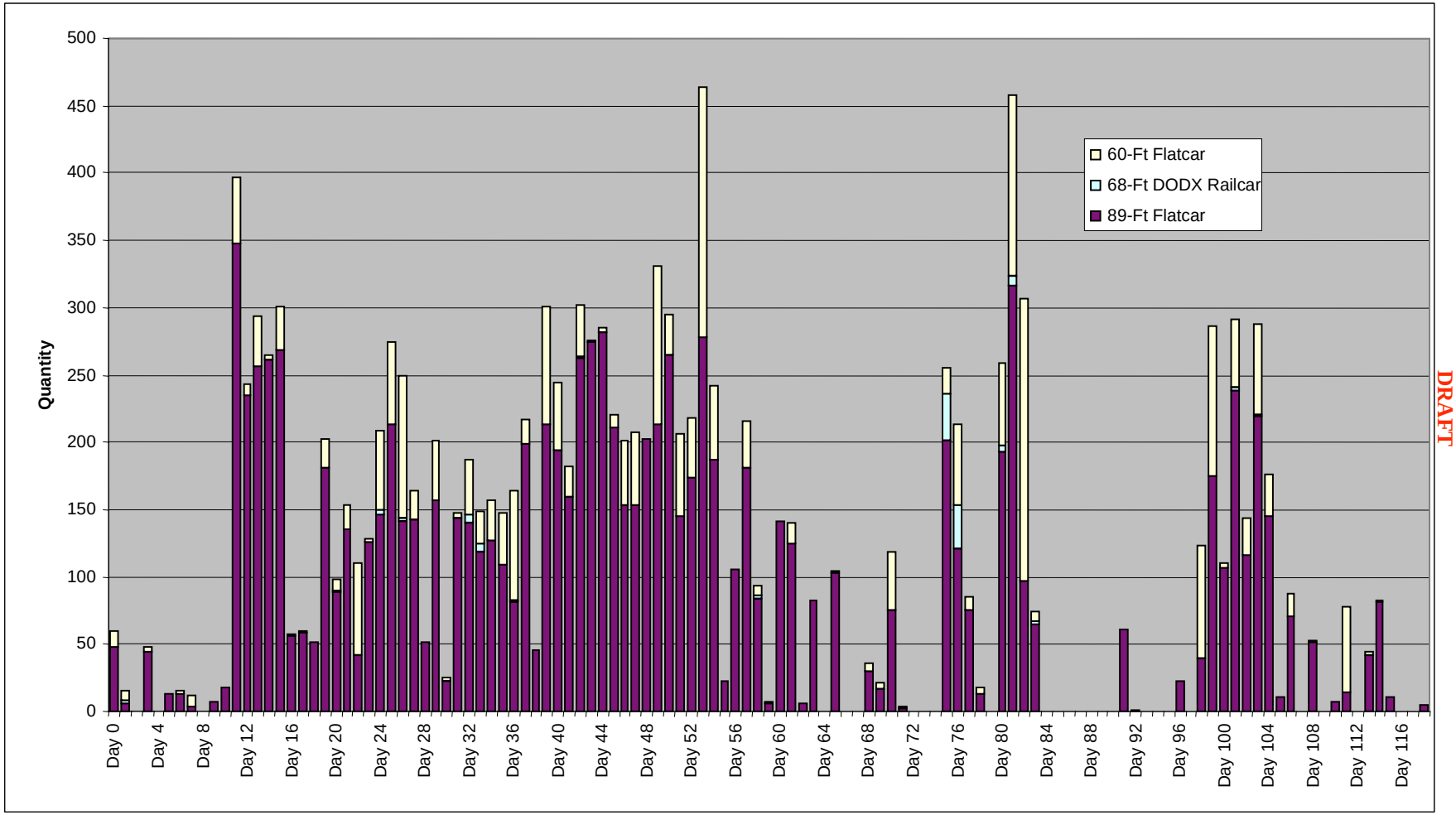

Figure A-4. Quantity of Railcars Arriving at the Port of Charleston

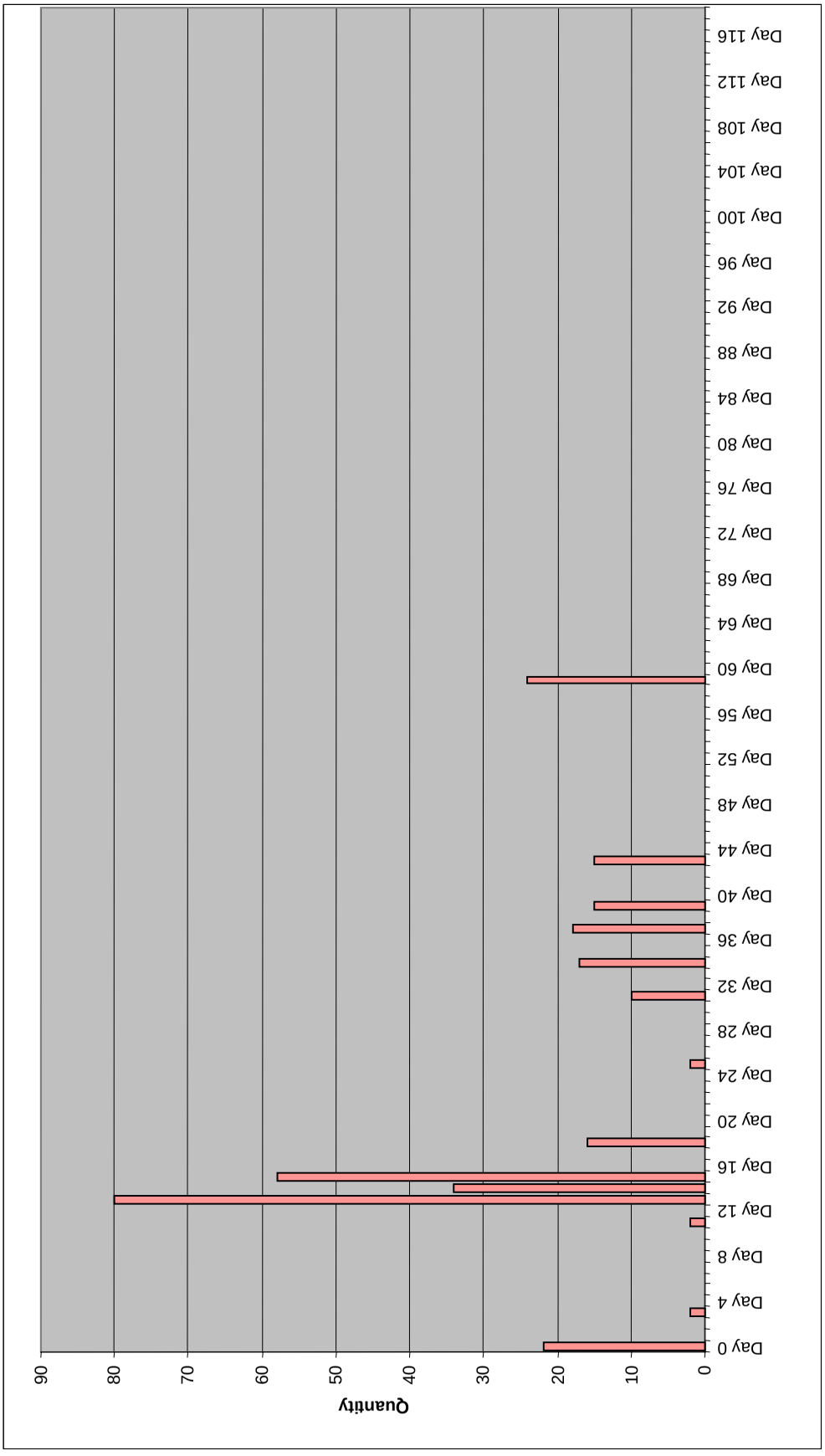

Figure A-5. Quantity of Aircraft Arriving at the Port of Charleston

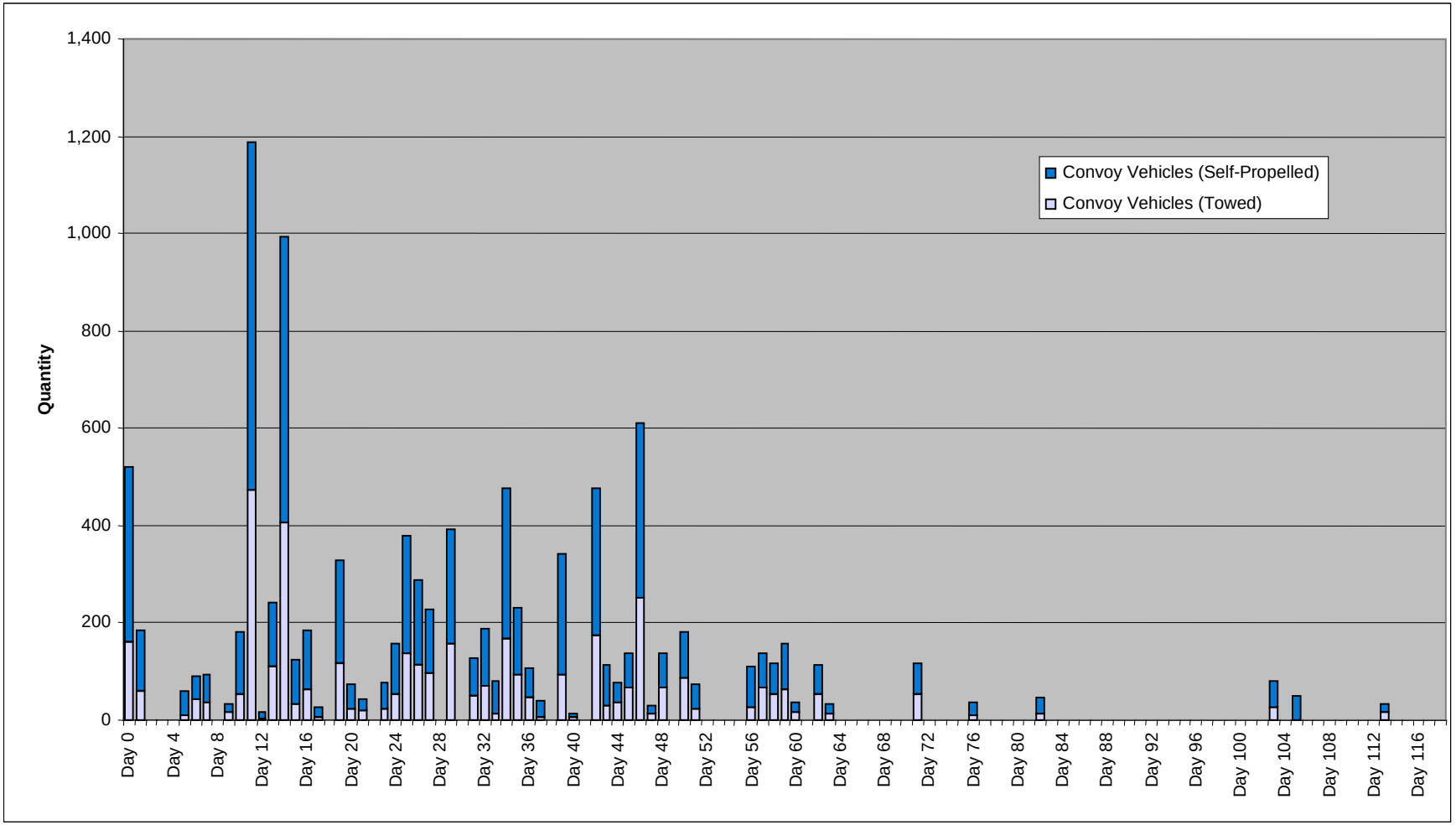

Figure A-6. Quantity of Convoy Vehicles Arriving at the Port of Charleston

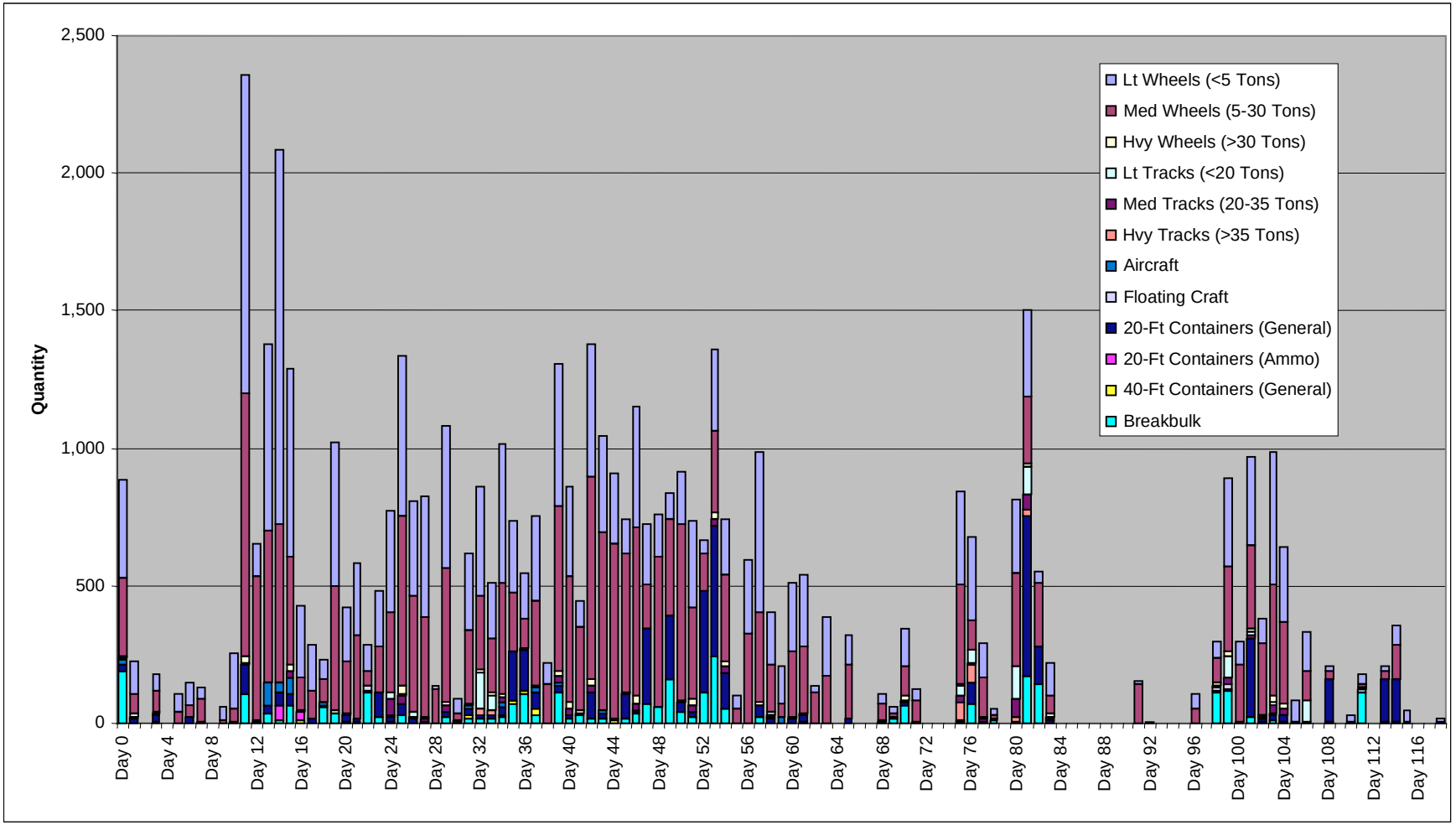

Figure A-7. Total Quantity of Items Arriving at the Port of Charleston

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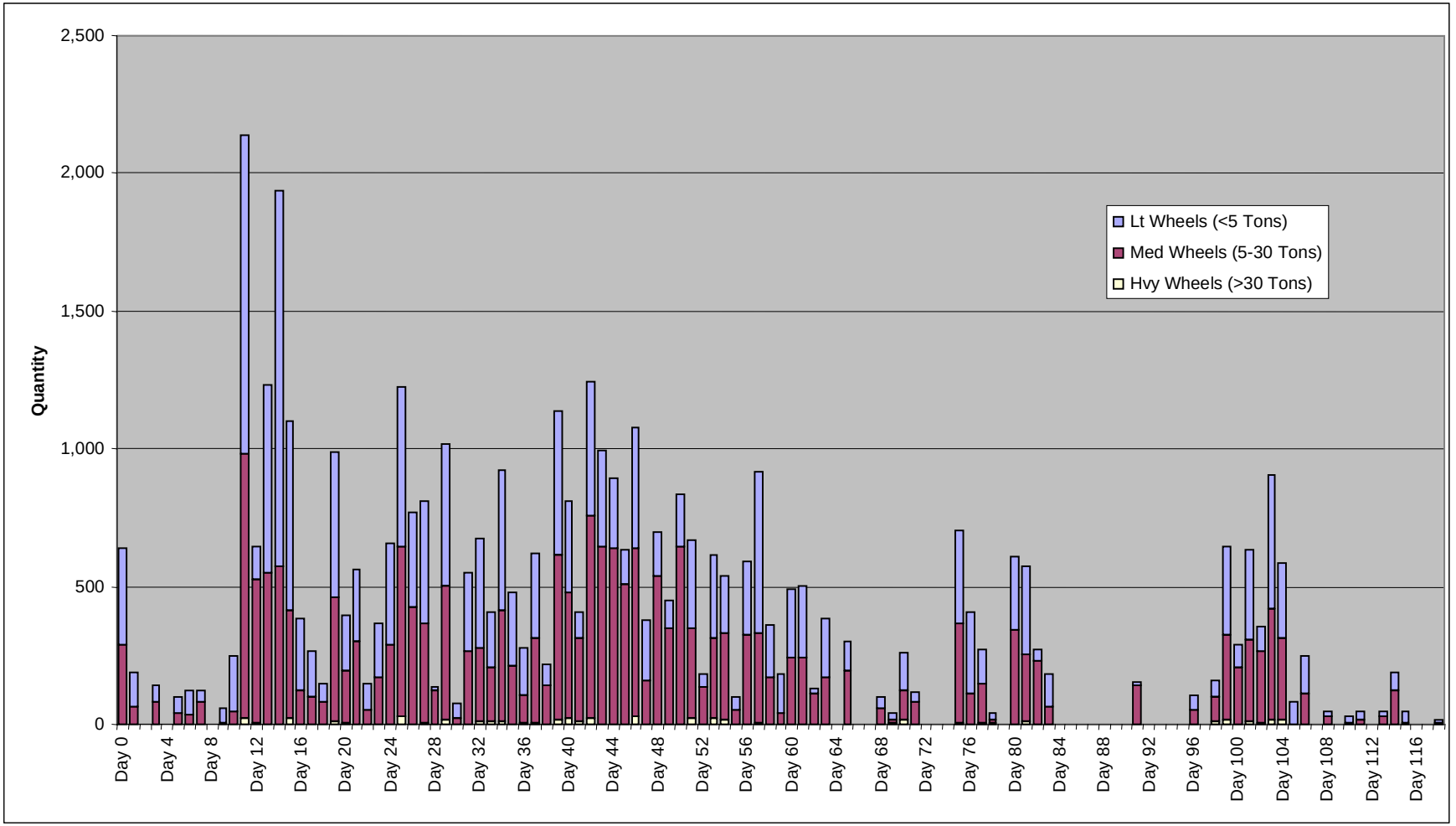

Figure A-8. Quantity of Wheeled Vehicles Arriving at the Port of Charleston

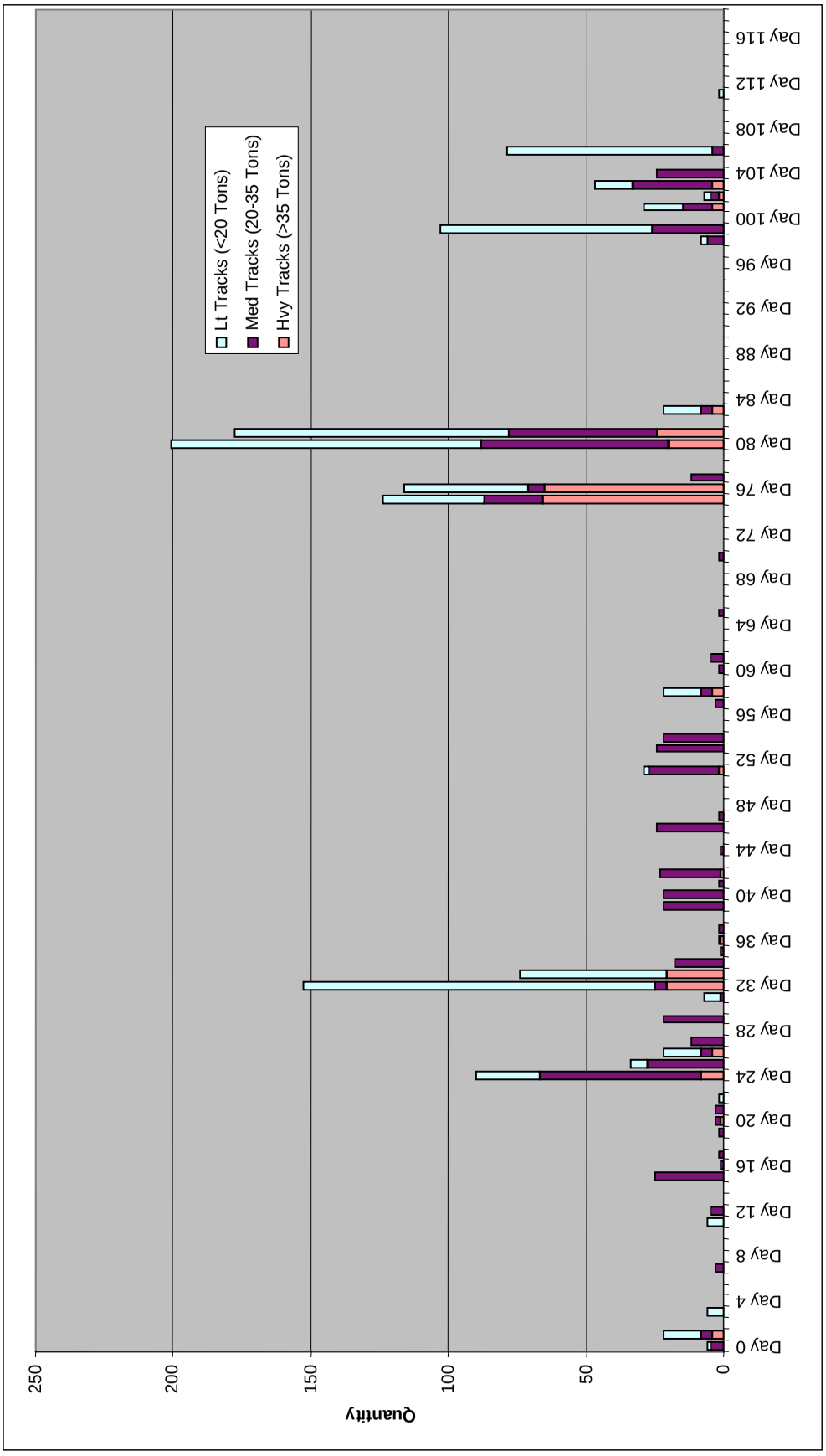

Figure A-9. Quantity of Tracked Vehicles Arriving at the Port of Charleston

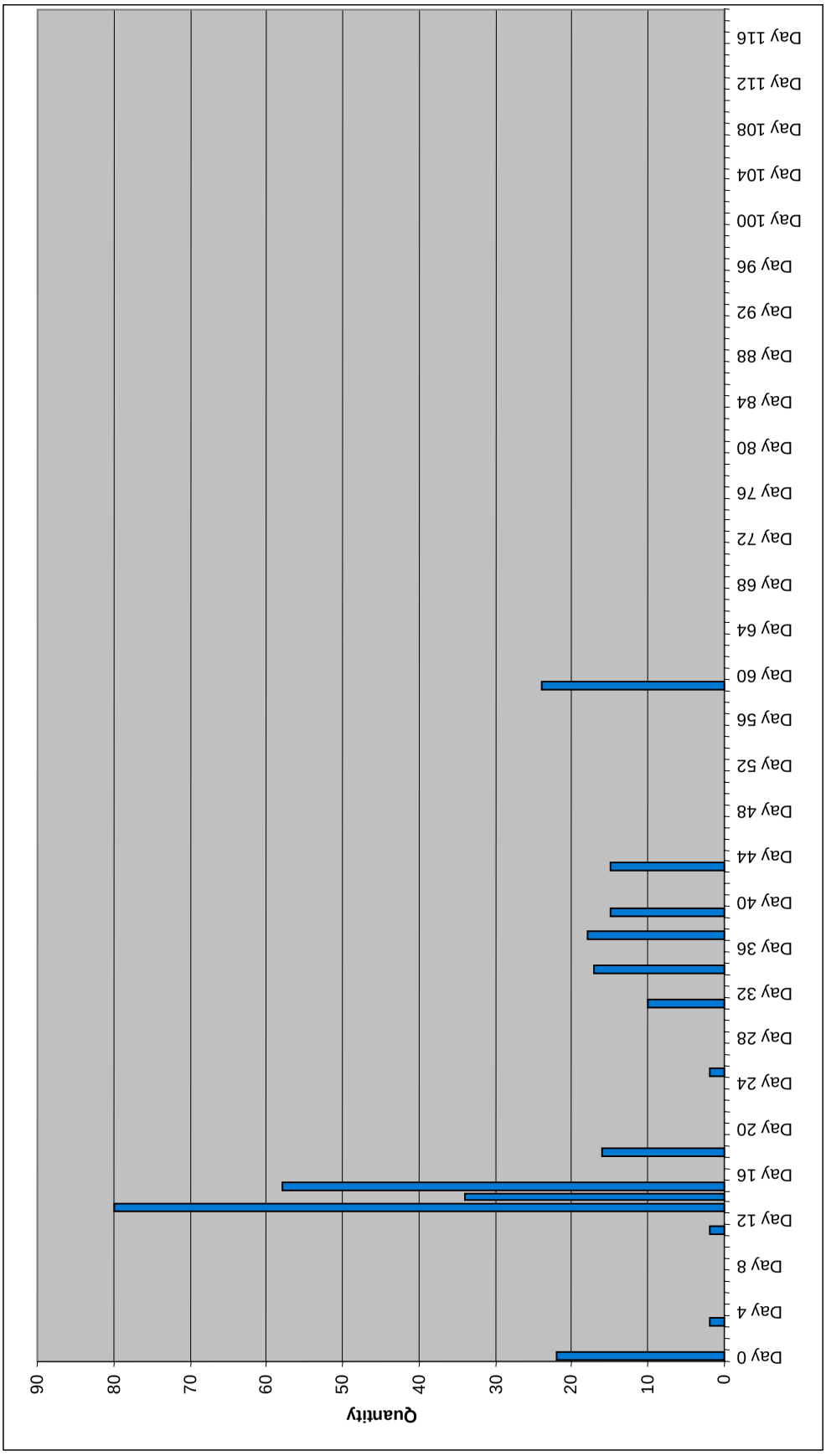

Figure A-10. Quantity of Aircraft Arriving at the Port of Charleston

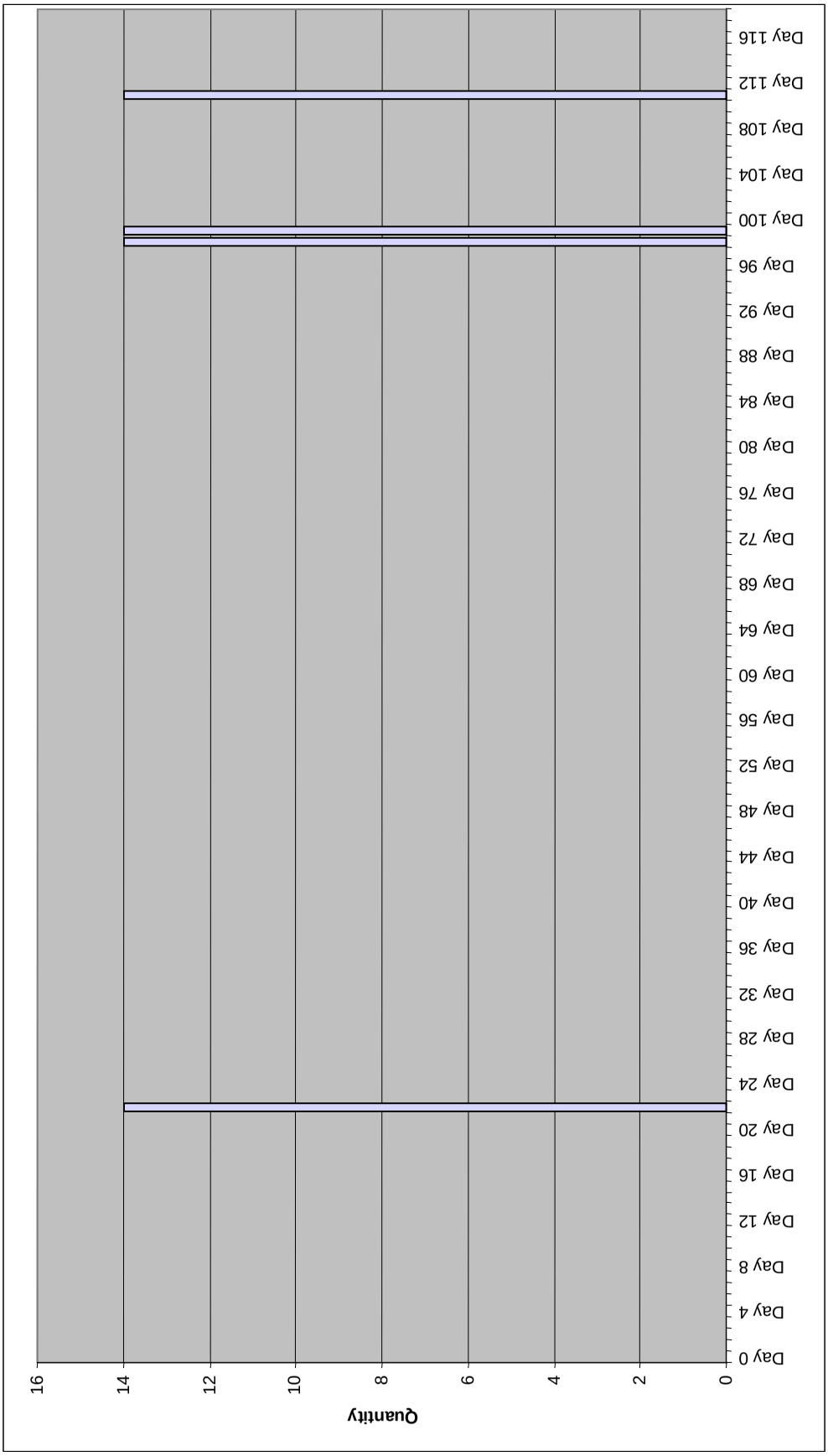

Figure A-11. Quantity of Floating Craft Arriving at the Port of Charleston

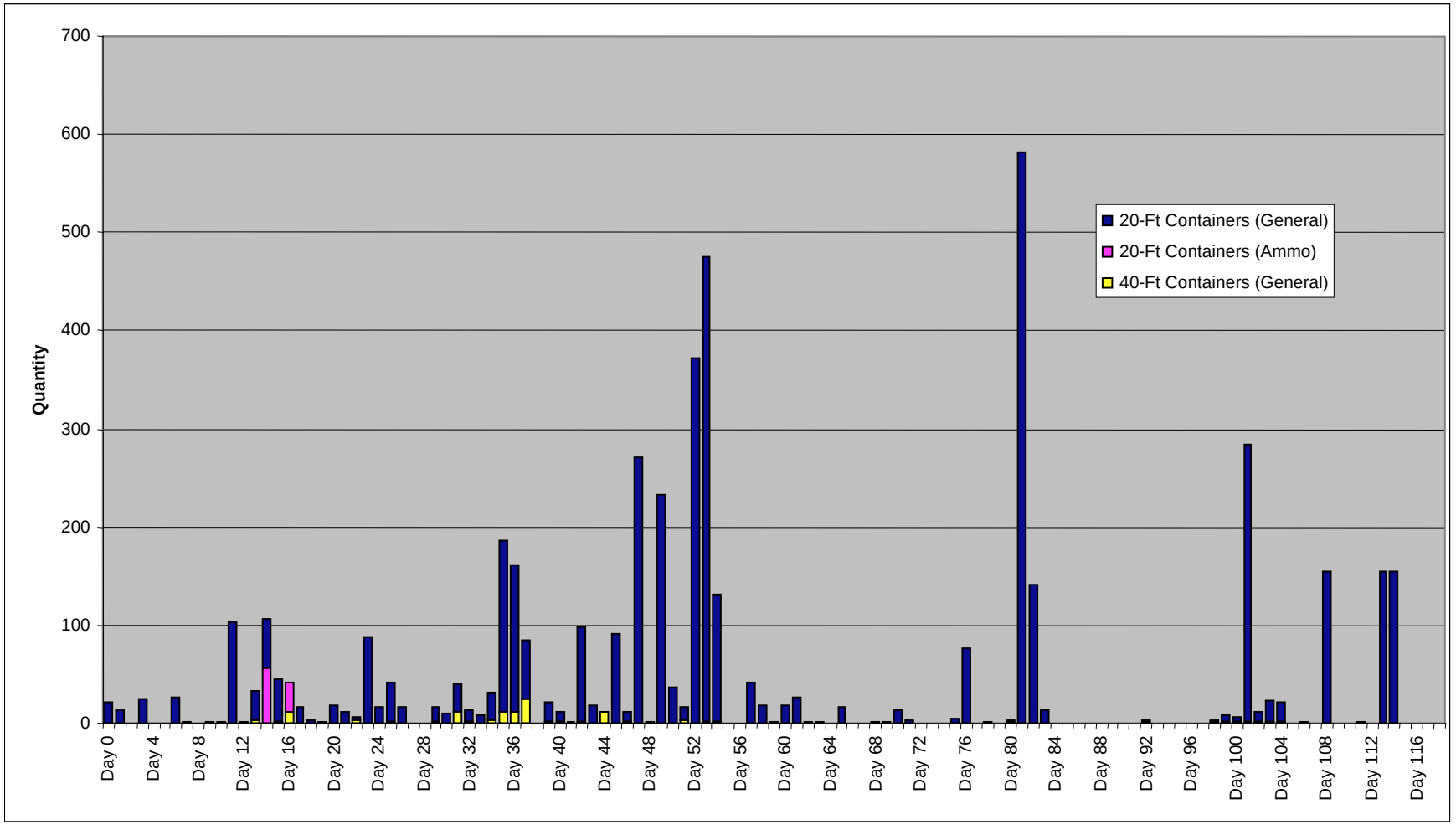

Figure A-12. Quantity of Containers Arriving at the Port of Charleston

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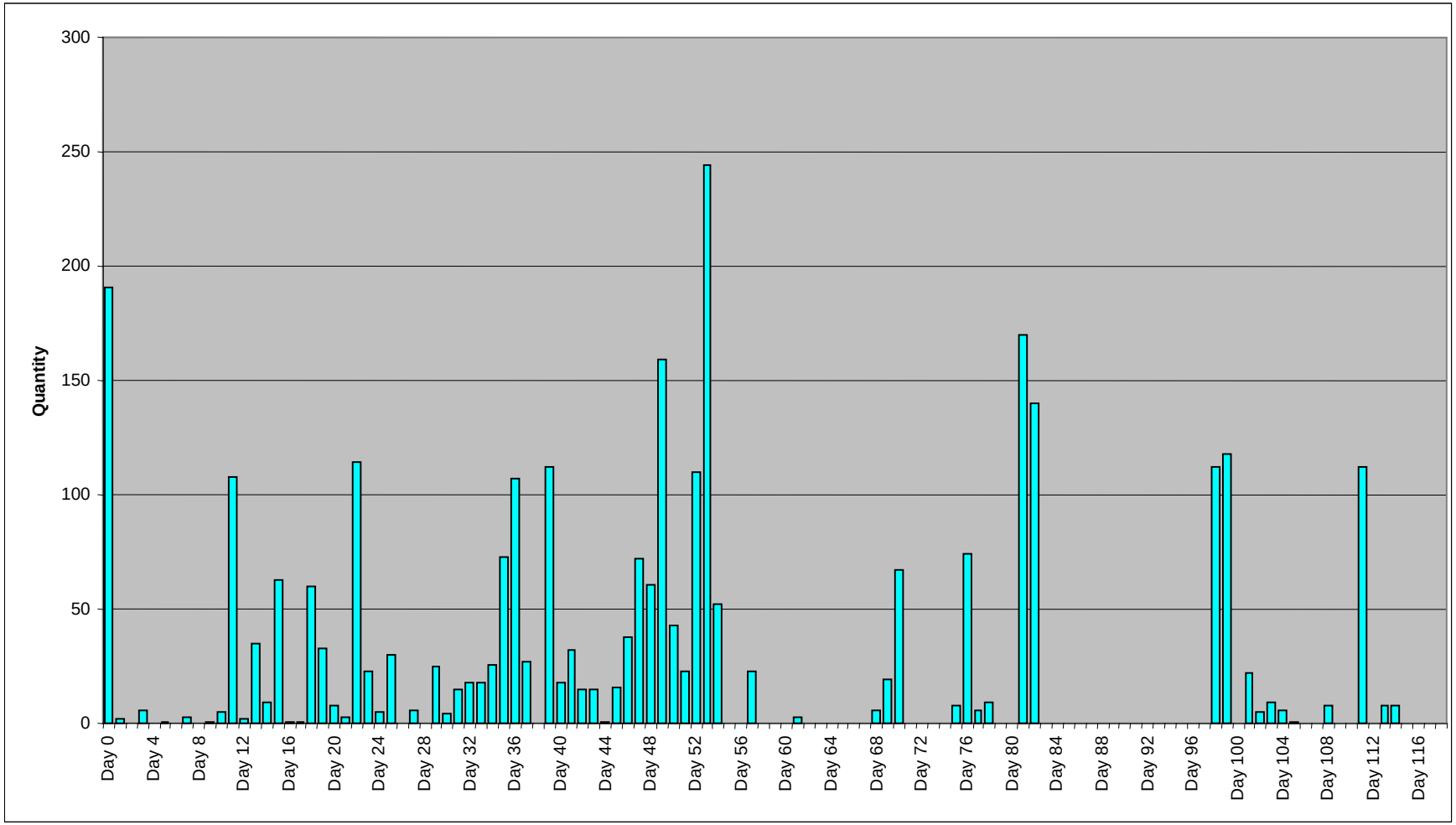

Figure A-13. Quantity of Breakbulk Cargo Items Arriving at the Port of Charleston

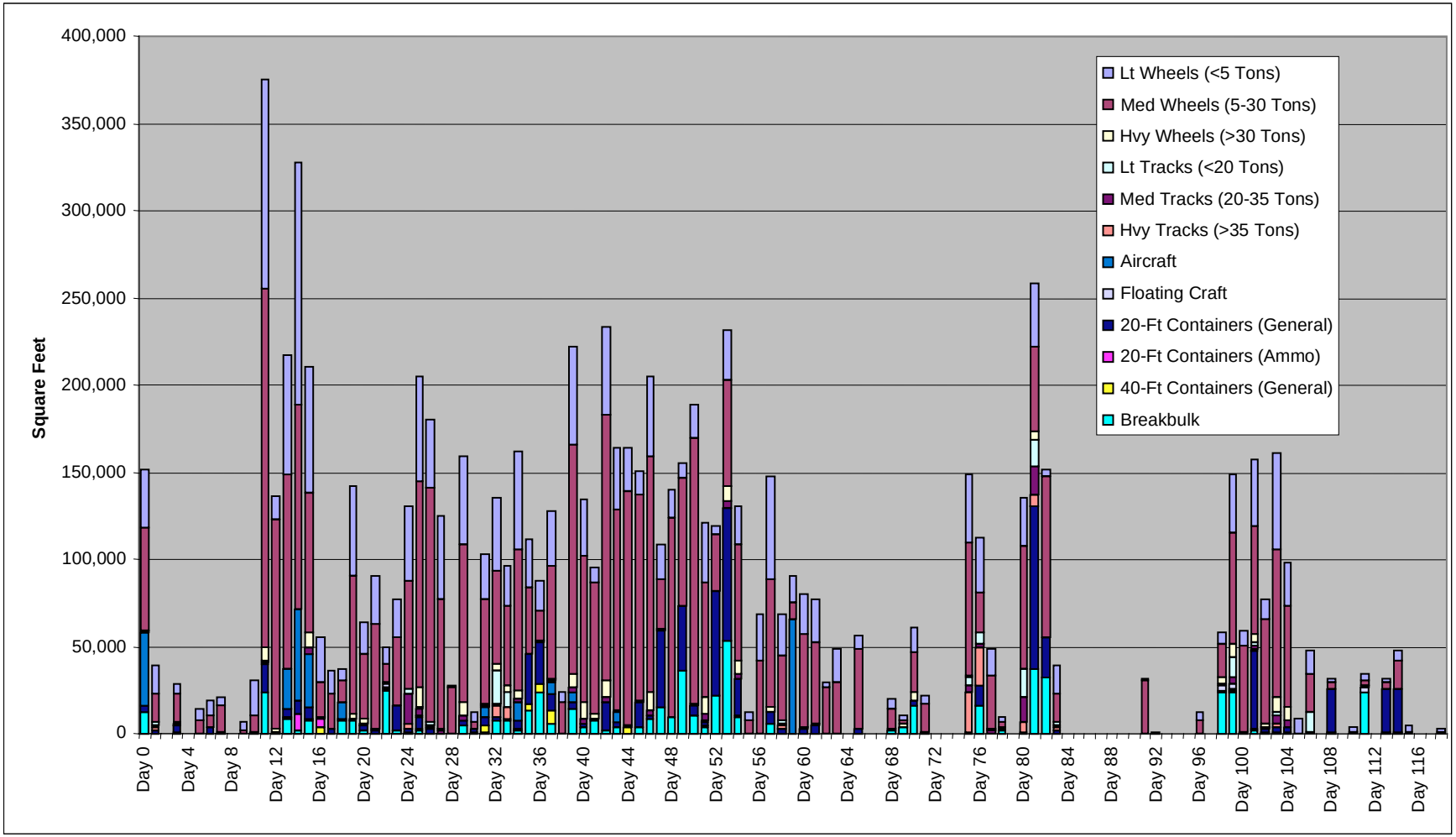

Figure A-14. Total Square Feet of Cargo Arriving at the Port of Charleston

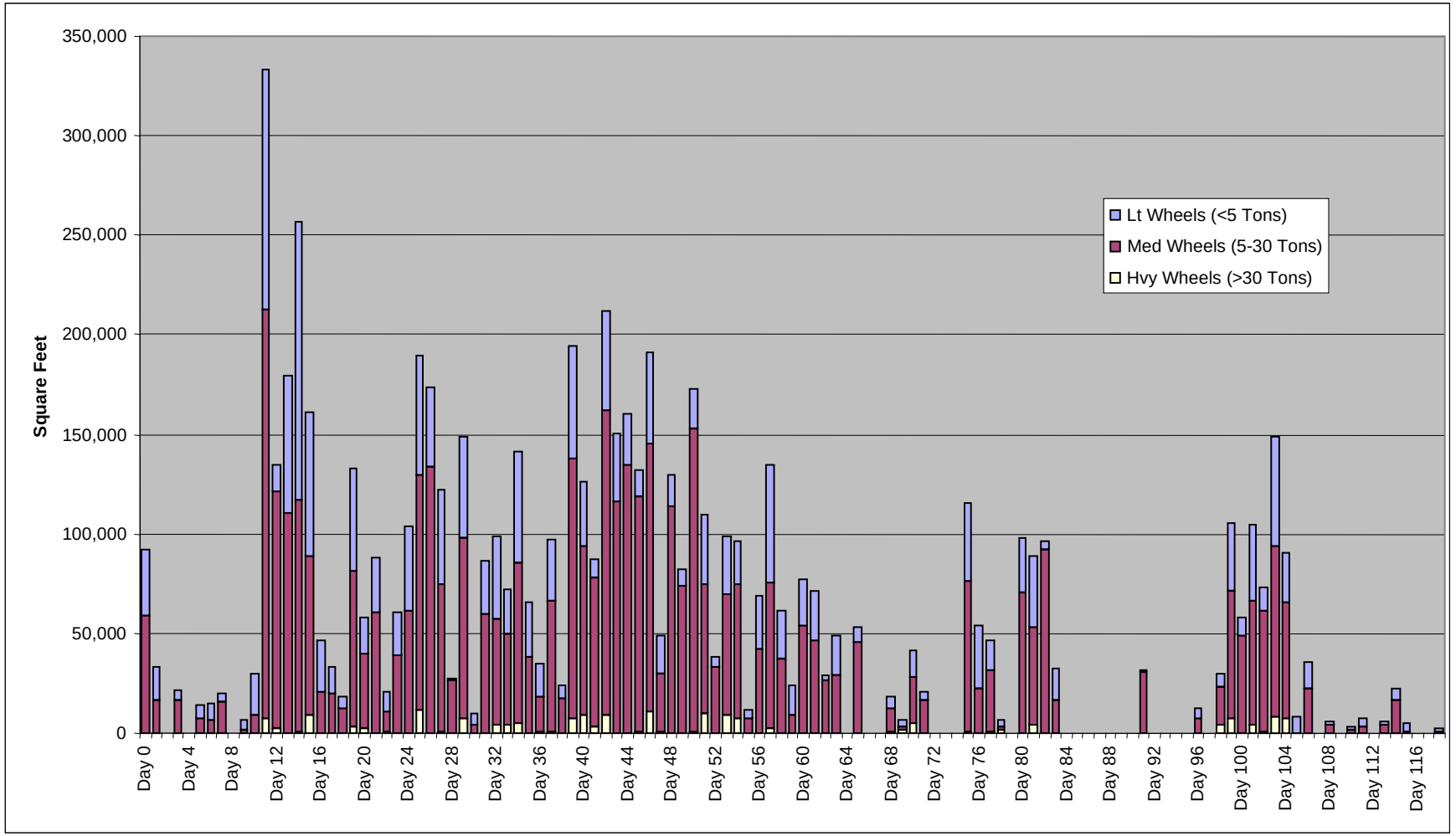

Figure A-15. Square Feet of Wheeled Vehicles Arriving at the Port of Charleston

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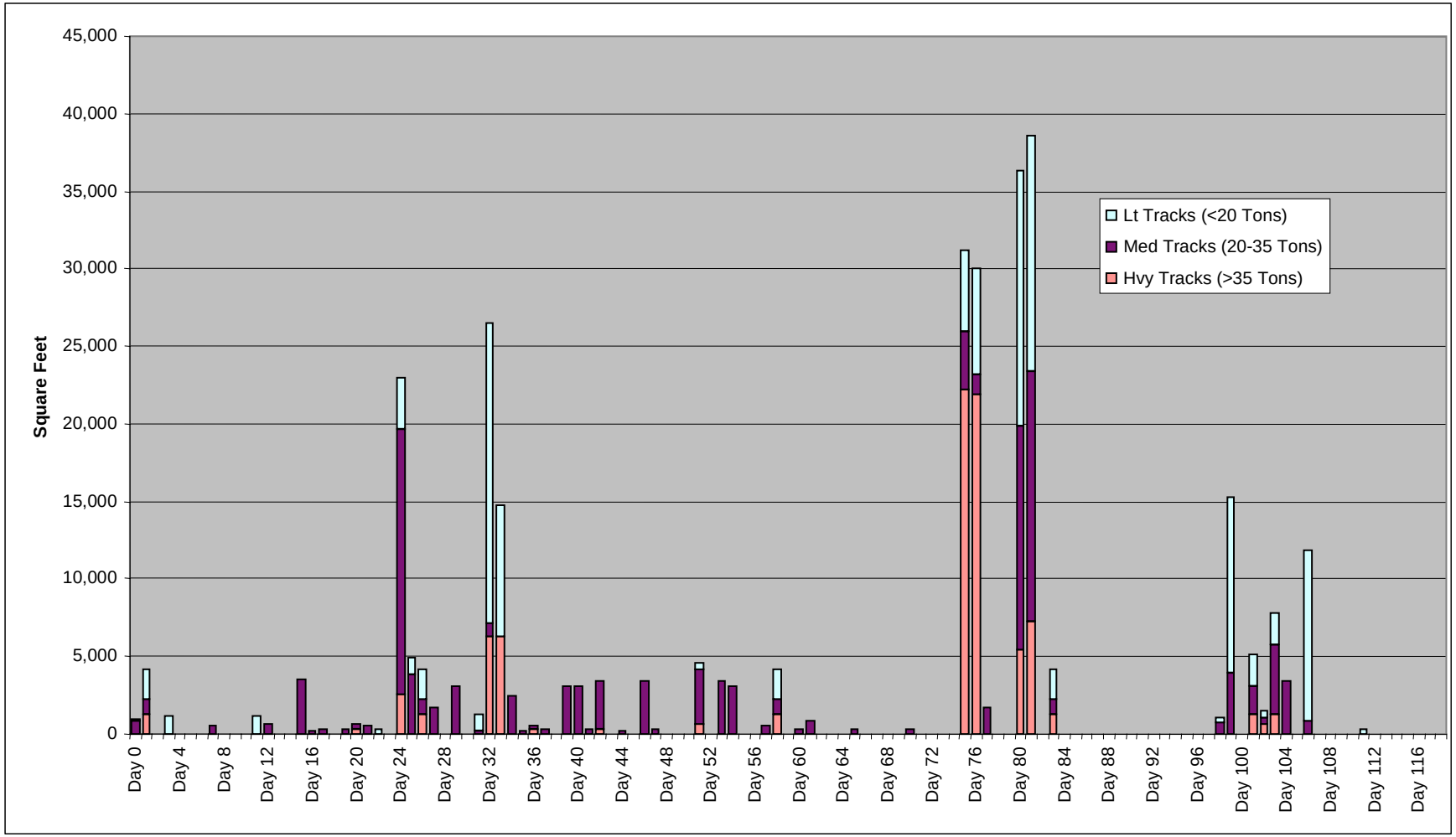


Figure A-16. Square Feet of Tracked Vehicles Arriving at the Port of Charleston

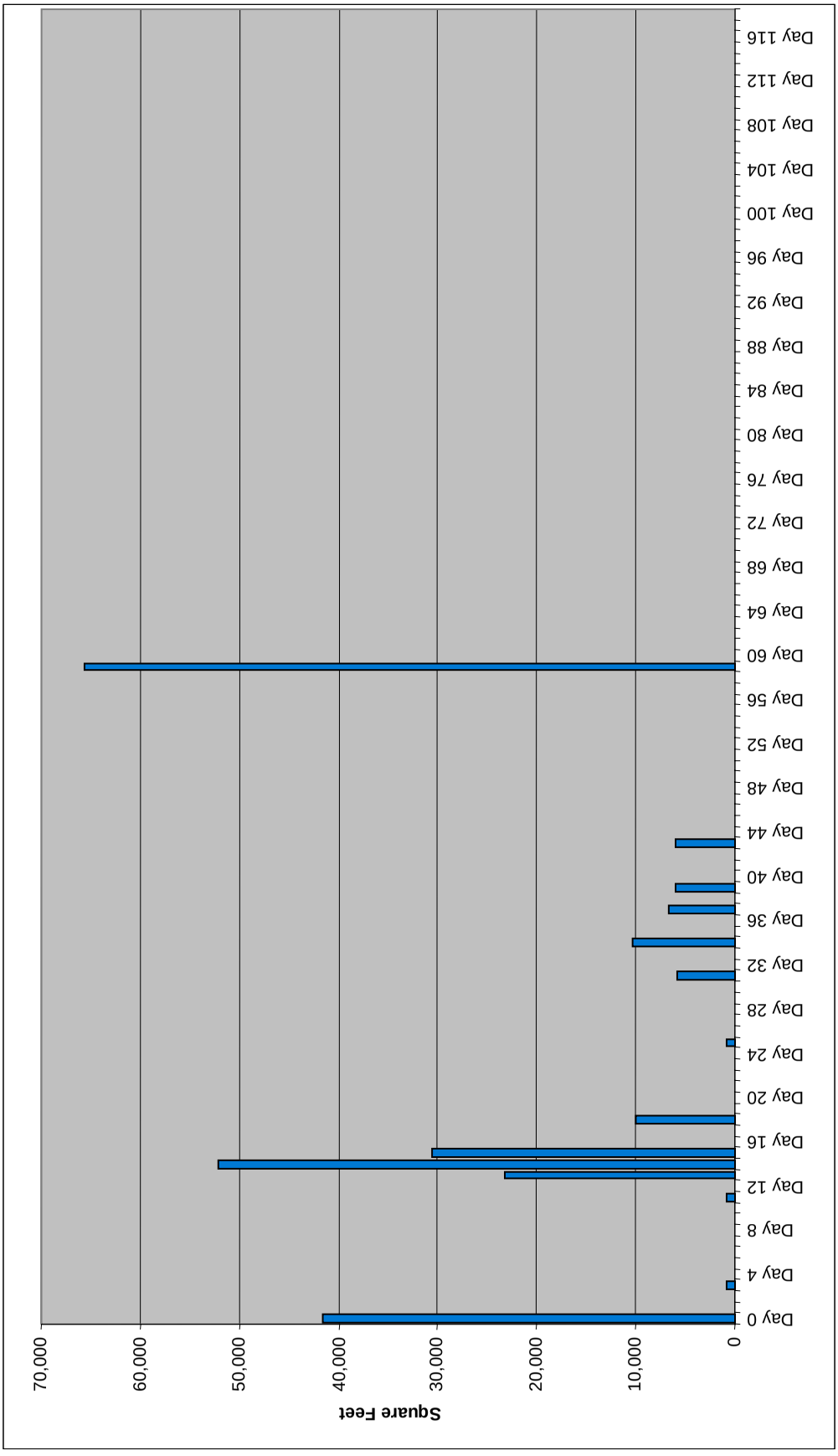


Figure A-17. Square Feet of Aircraft Arriving at the Port of Charleston

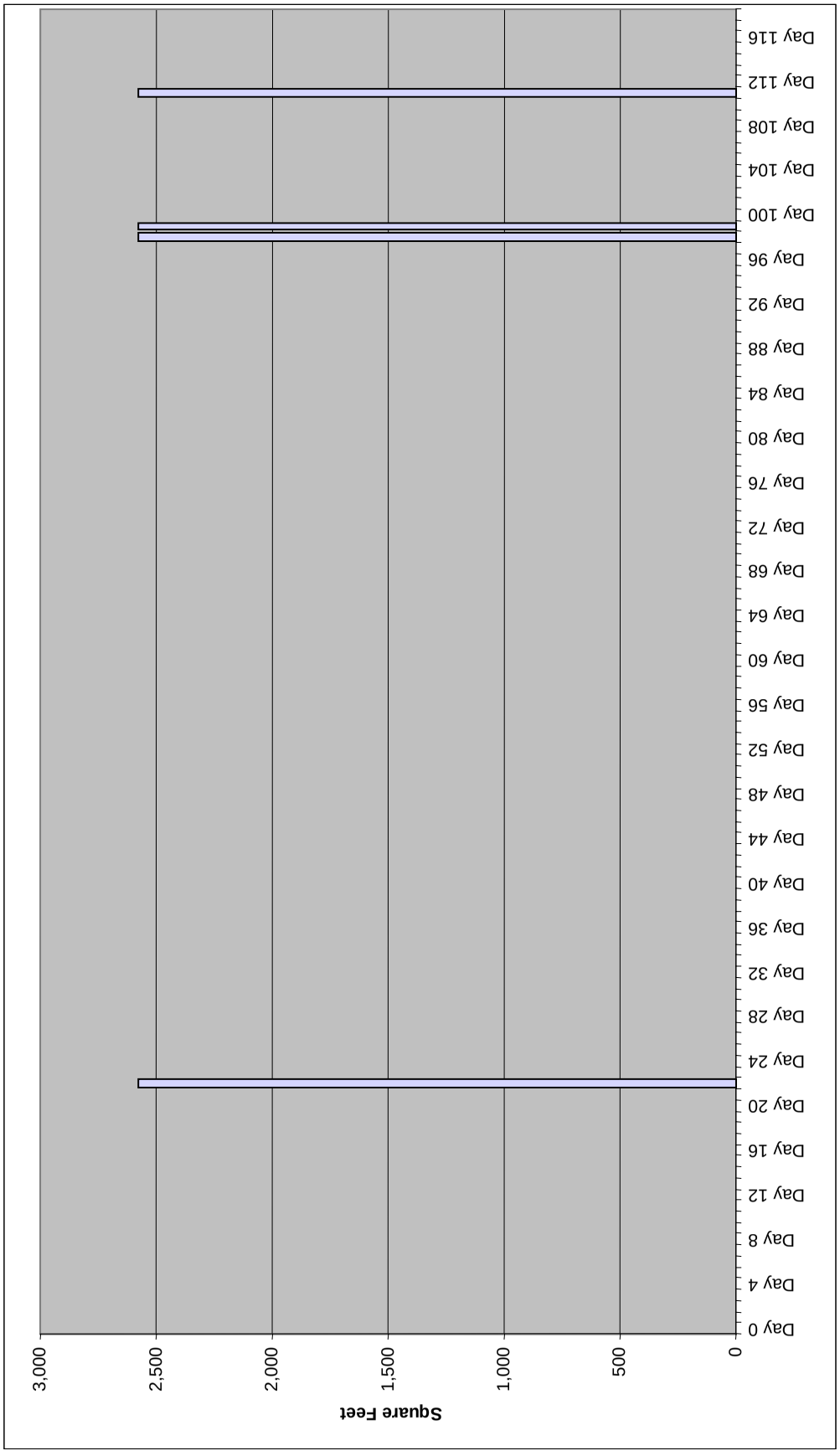


Figure A-18. Square Feet of Floating Craft Arriving at the Port of Charleston

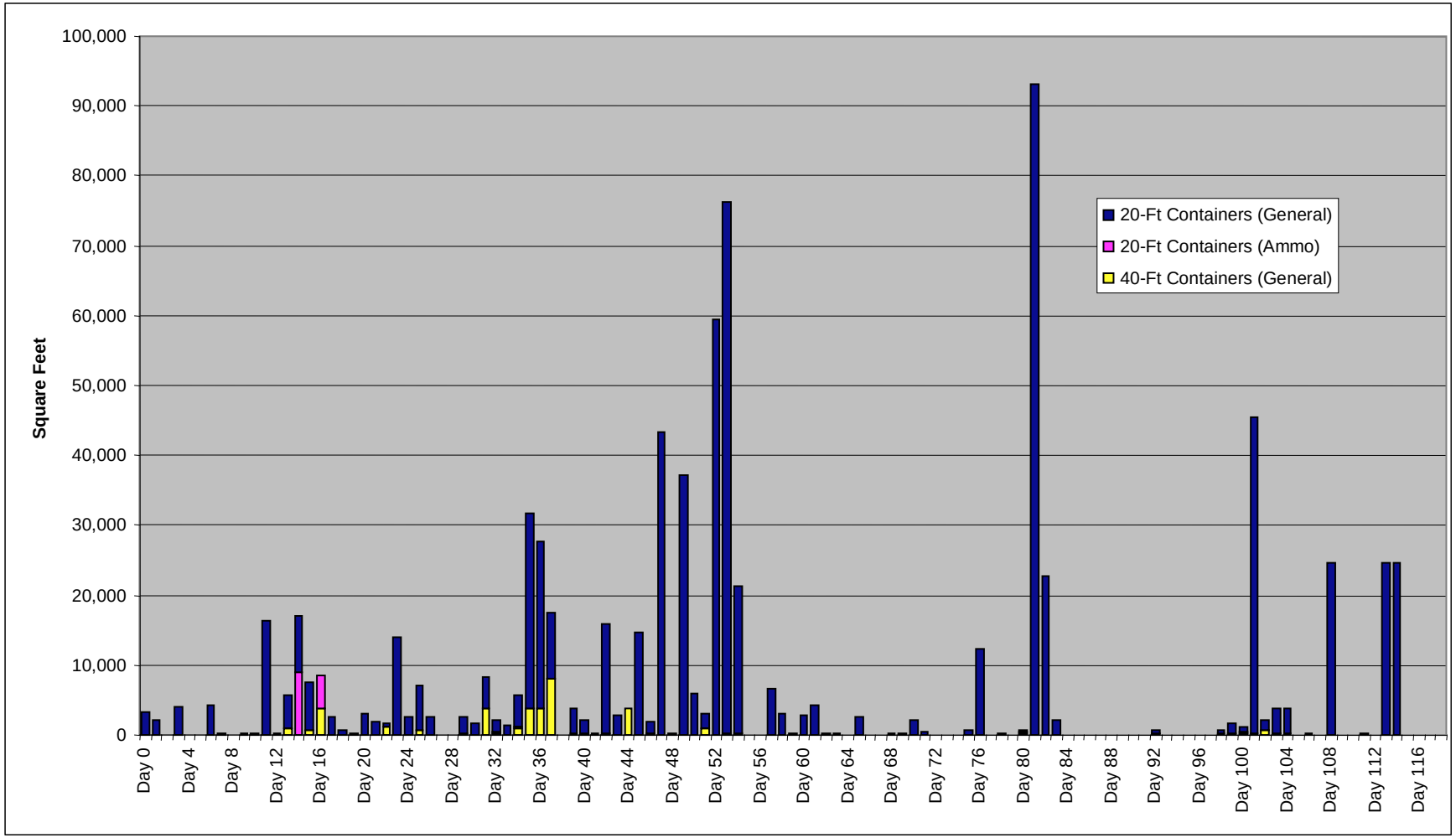


Figure A-19. Square Feet of Containers Arriving at the Port of Charleston

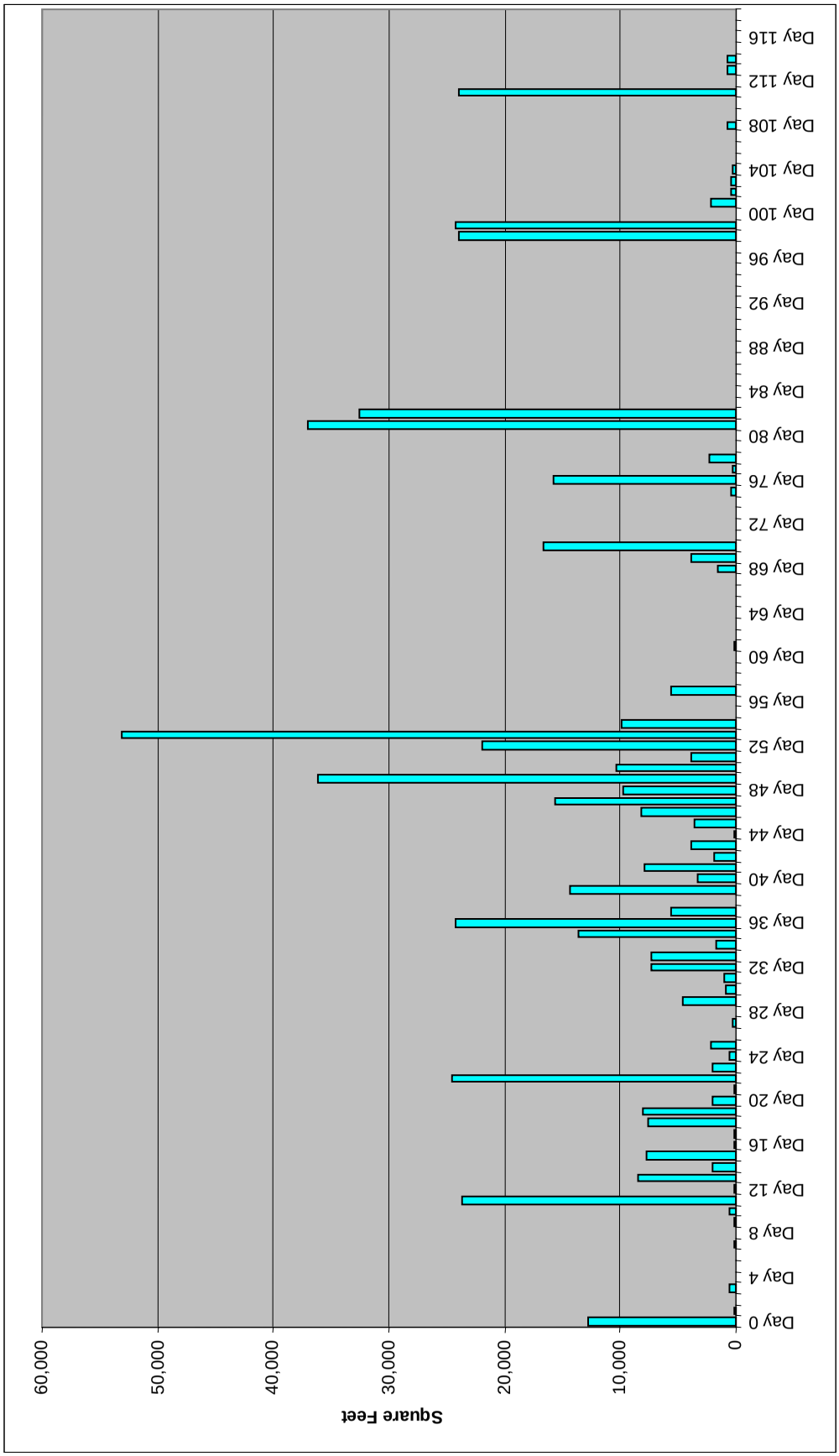


Figure A-20. Square Feet of Breakbulk Cargo Items Arriving at the Port of Charleston

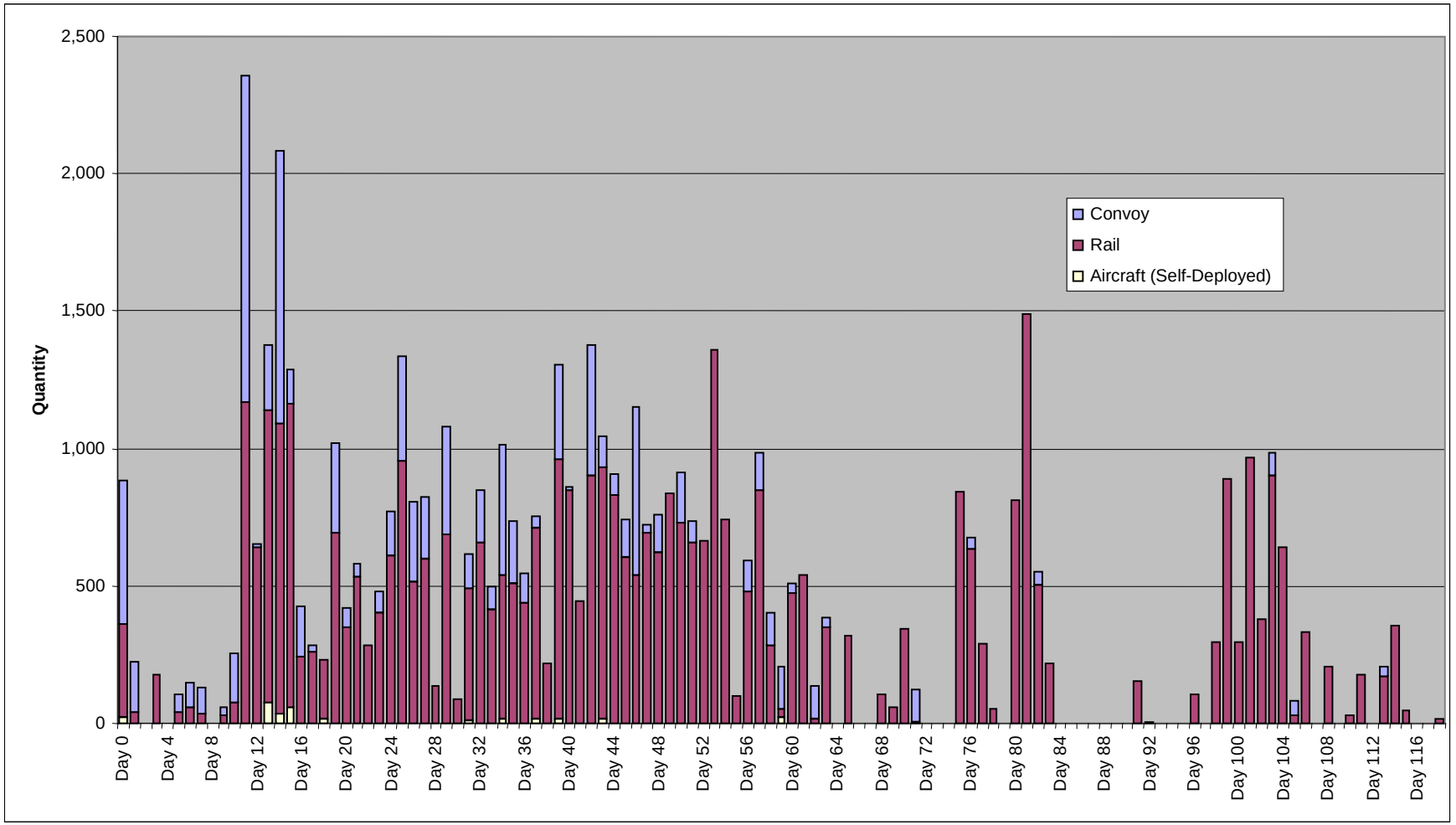


Figure A-21. Quantity of Cargo Items Arriving by Mode to the Port of Charleston

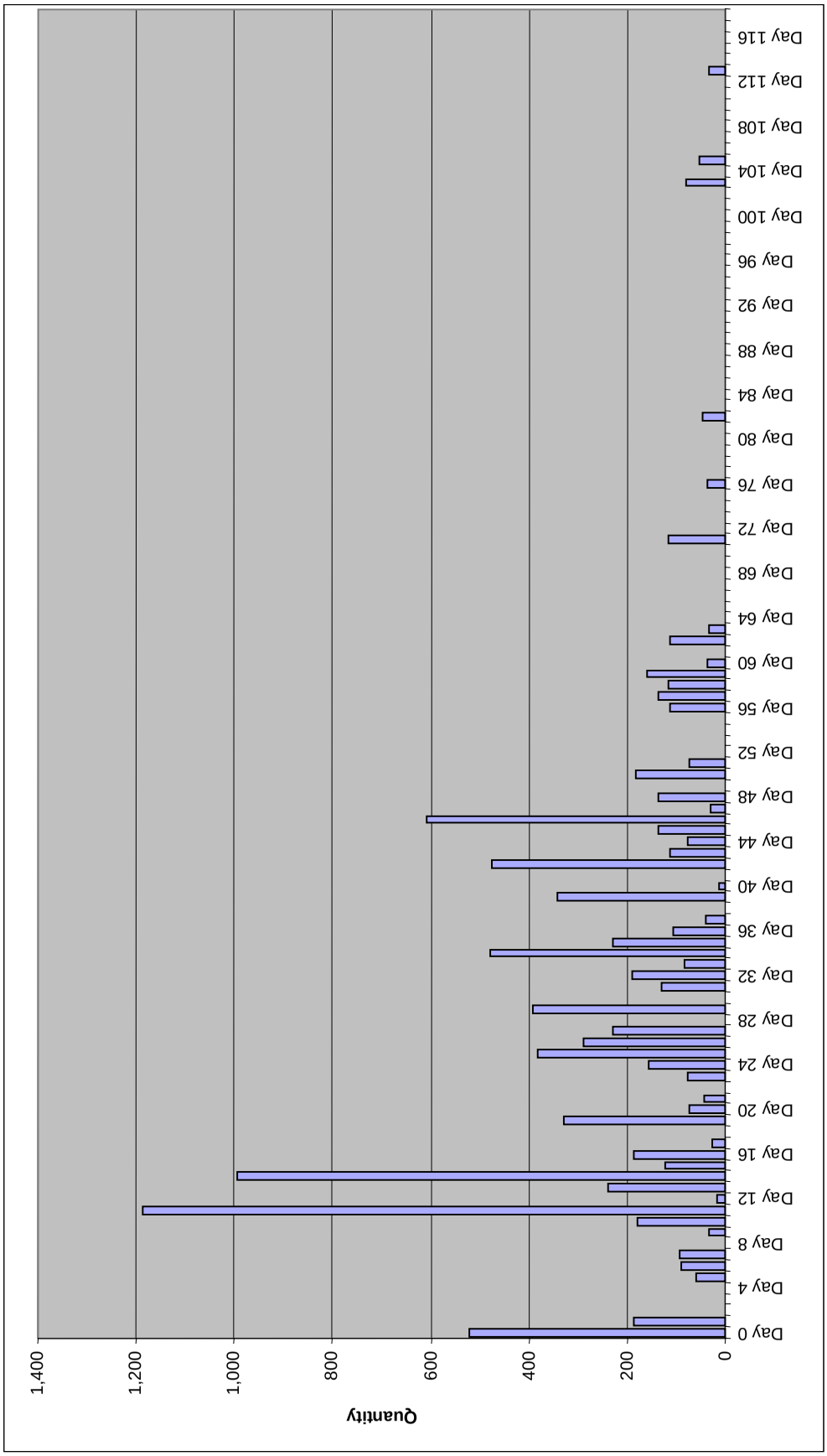


Figure A-22. Quantity of Wheeled Vehicles Convoying to the Port of Charleston

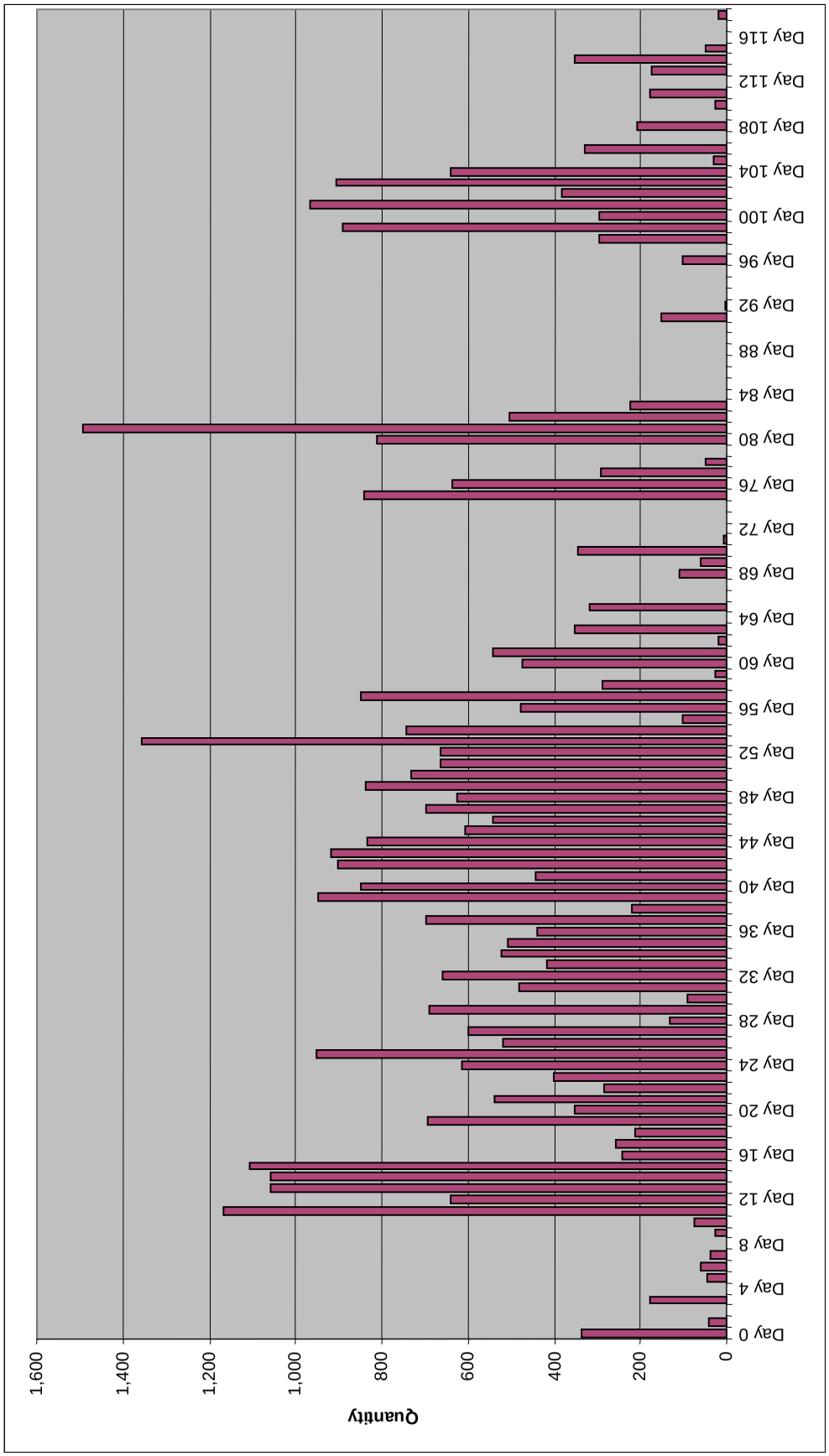


Figure A-23. Quantity of Items Arriving by Rail to the Port of Charleston

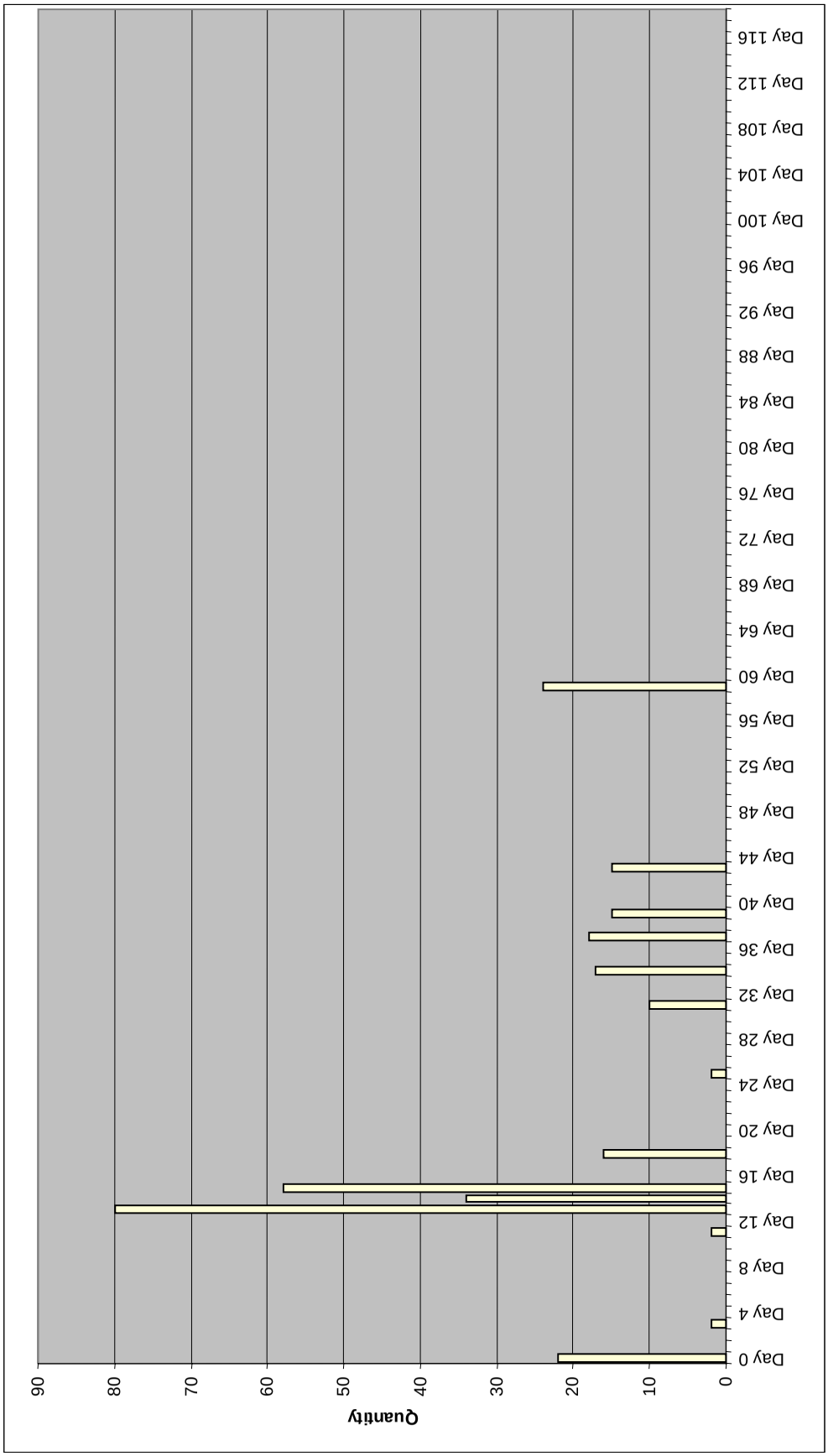


Figure A-24. Quantity of Aircraft Se;f-Deploying to the Port of Charleston

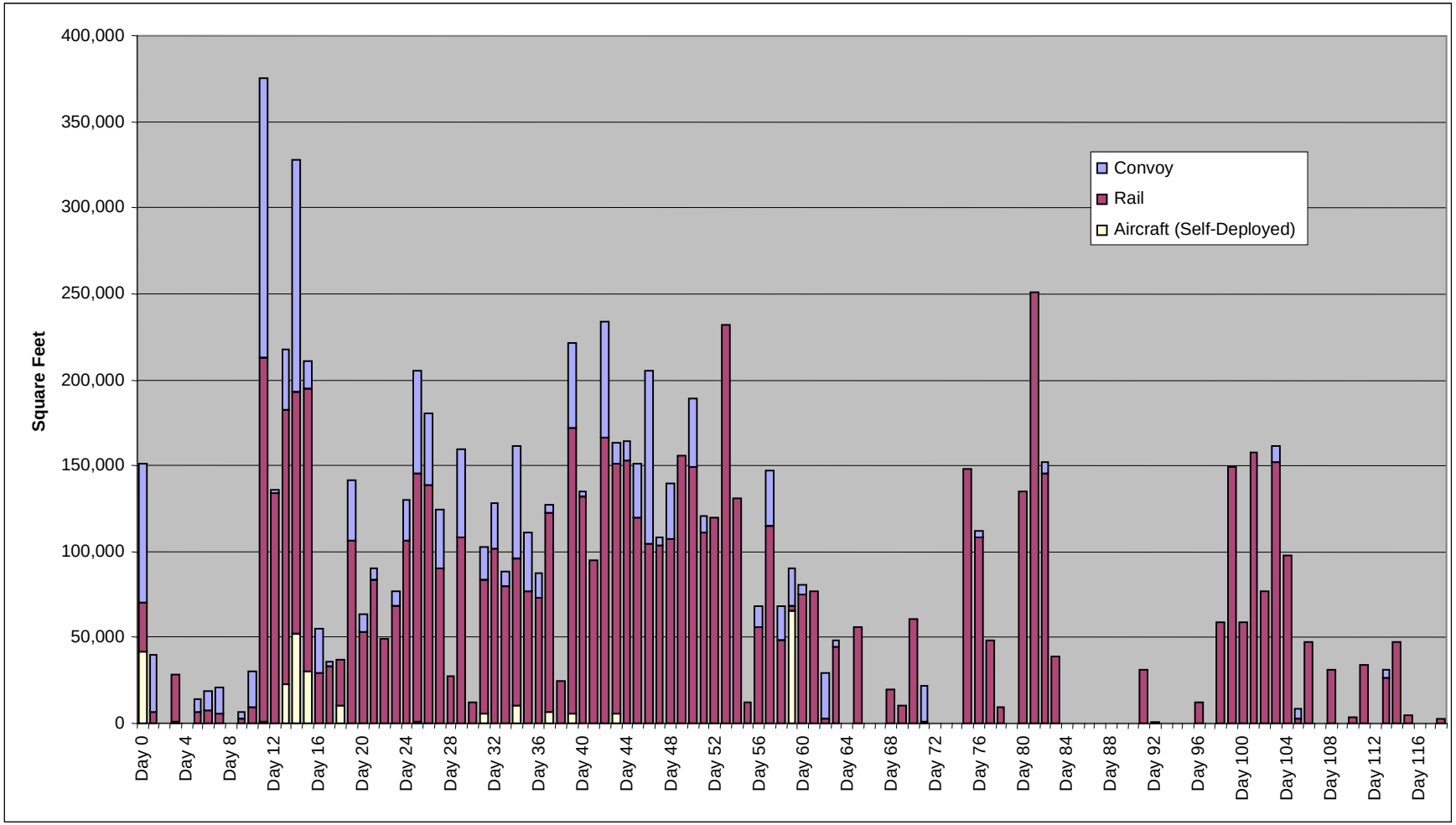


Figure A-25. Square Feet of Cargo Items Arriving by Mode to the Port of Charleston

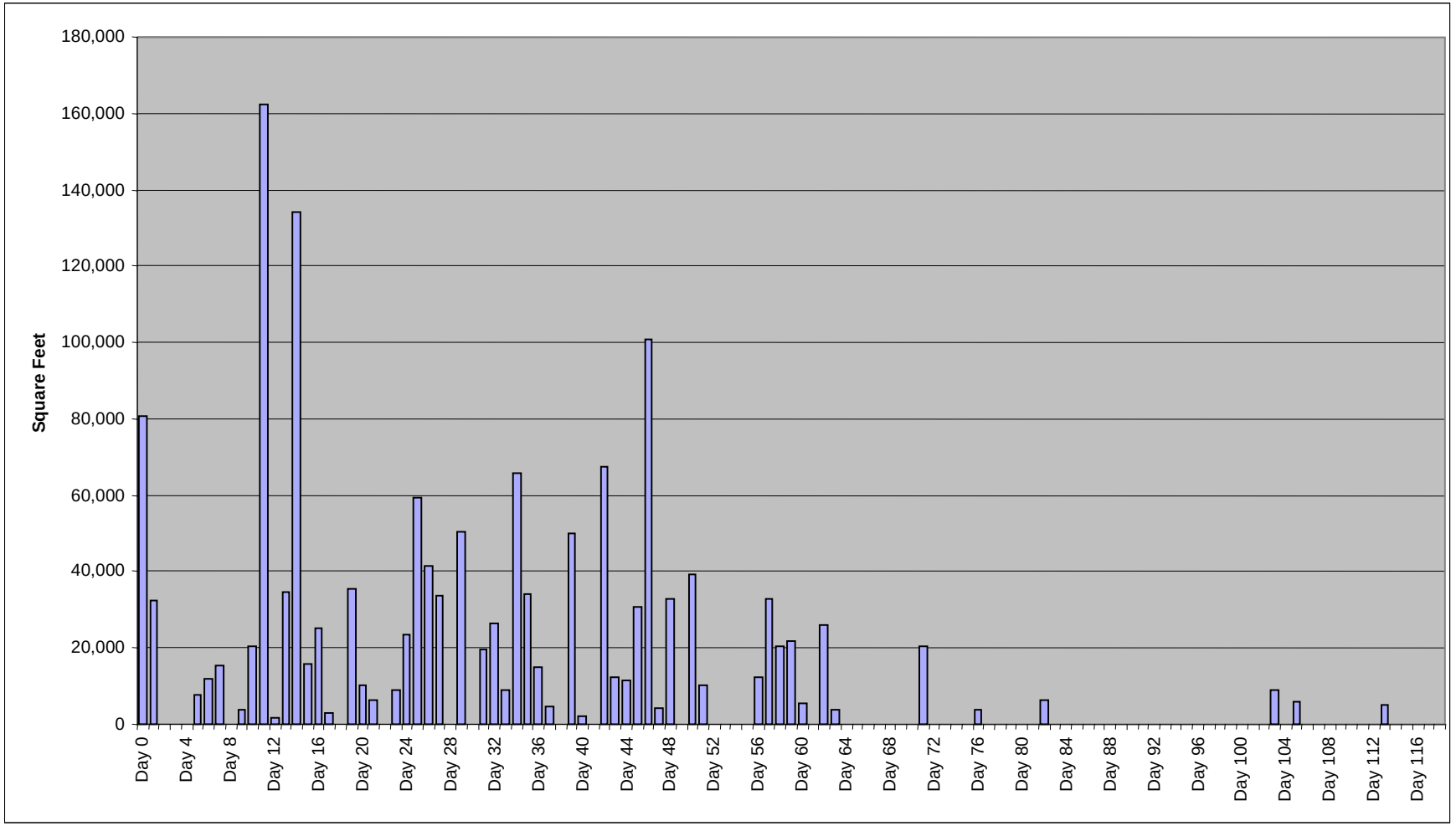


Figure A-26. Square Feet of Wheeled Vehicles Convoying to the Port of Charleston

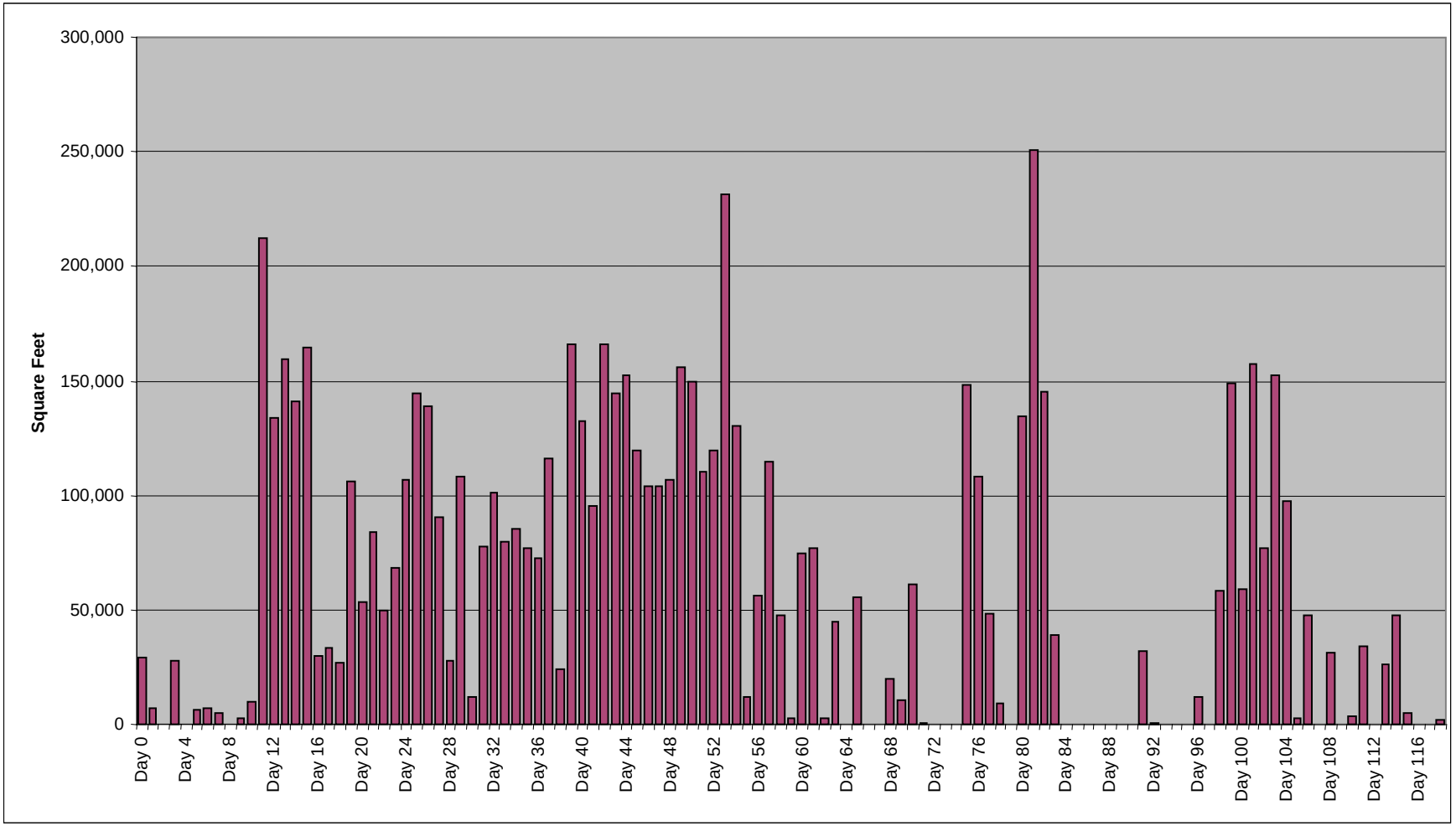


Figure A-27. Square Feet of Cargo Items Arriving by Rail to the Port of Charleston

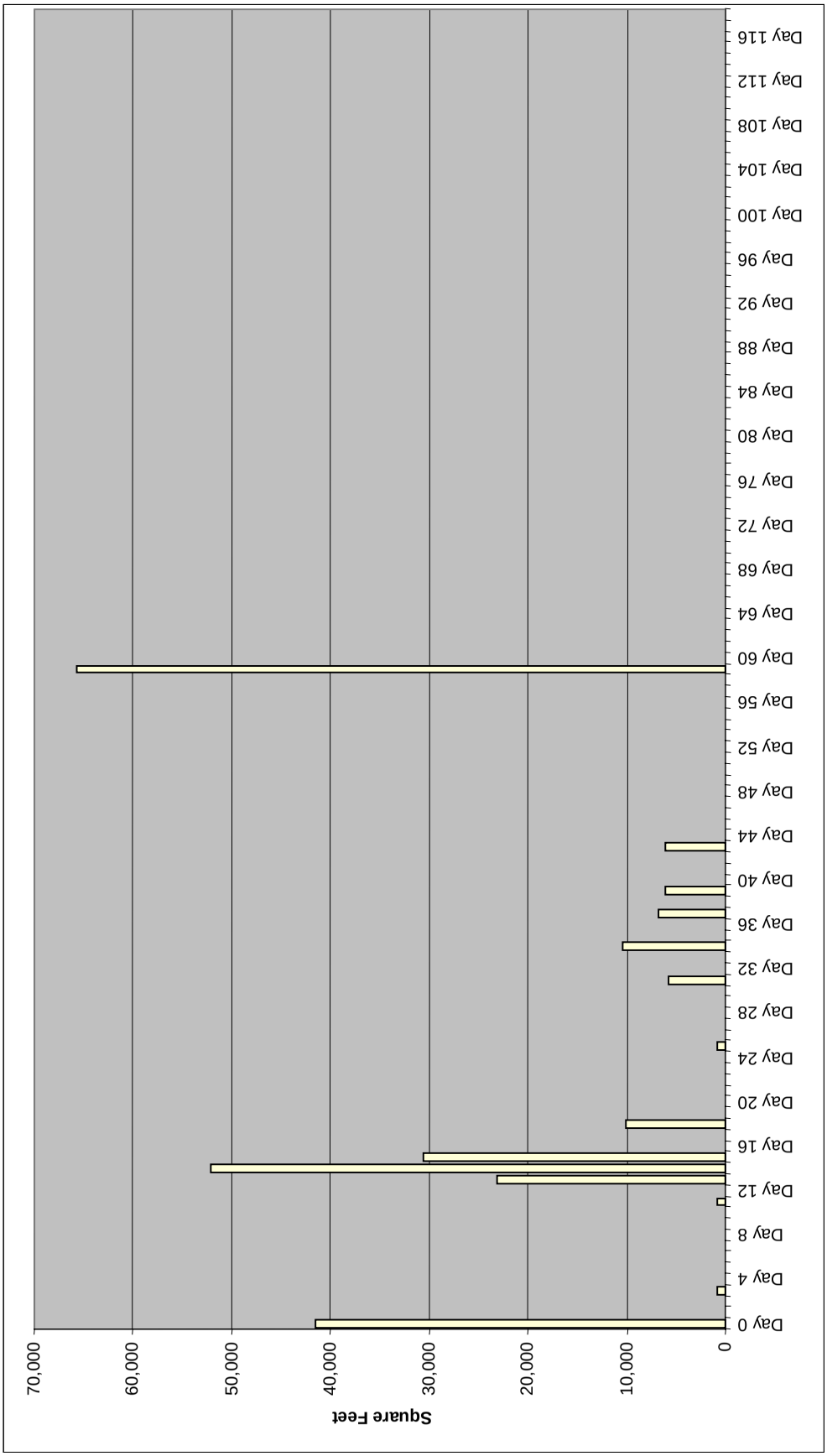


Figure A-28. Square Feet of Aircraft Self-Deploying to the Port of Charleston

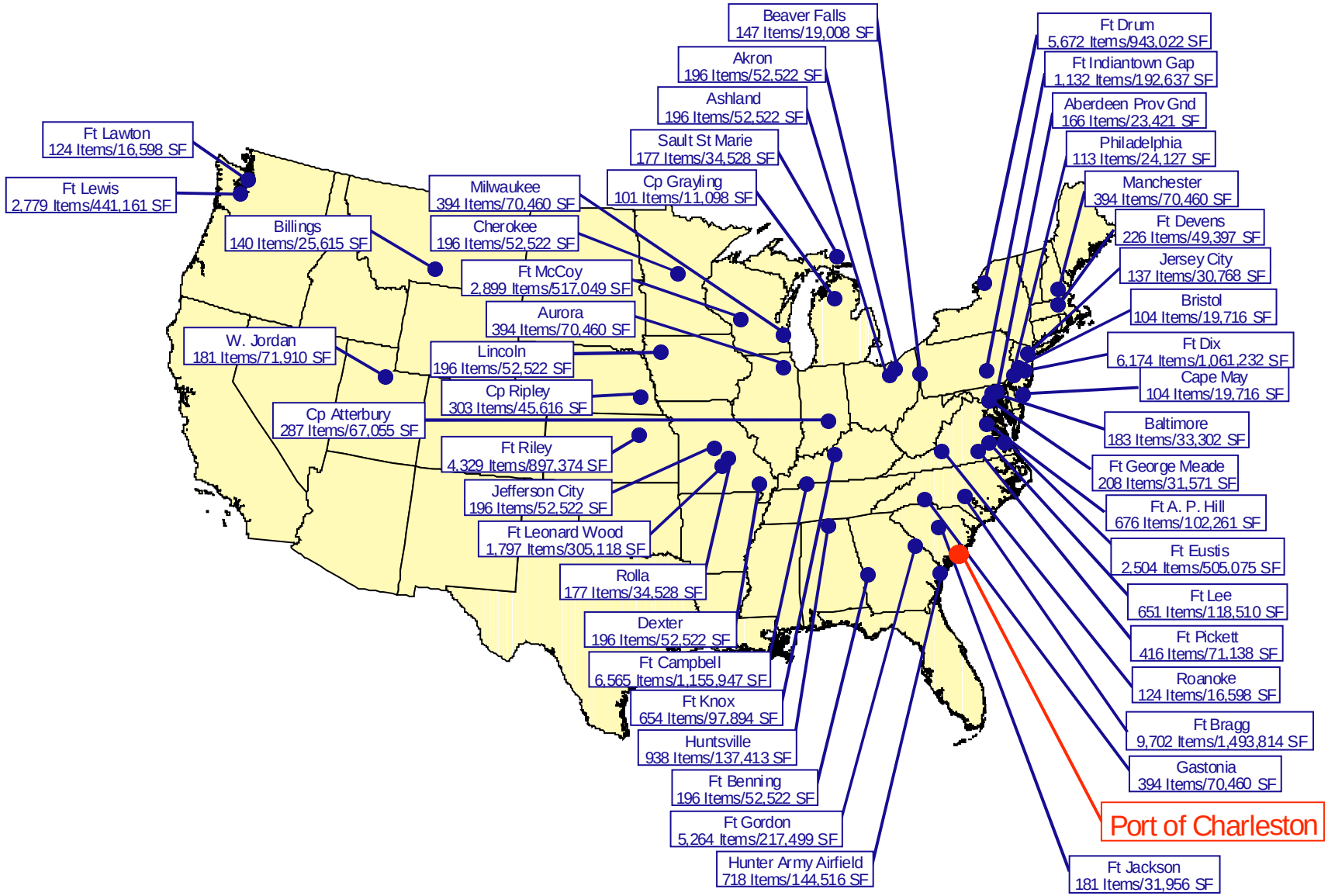


Figure A-29. Amount of Cargo Arriving at the Port of Charleston by Origin

Table A-2
Amount of Cargo Arriving at the Port of Charleston
(Origins not in Figure A-29)

ORIGIN	QUANTITY	SQUARE FEET
Casper, WY	98	16,318
Ogden, UT	76	10,322
Shaw AFB, SC	74	9,475
Brockton, MA	73	8,080
Hempstead, NY	73	8,080
Middletown, RI	73	8,080
Warren, RI	73	8,080
Warwick, RI	73	8,080
Hartford, CT	71	7,920
Blackstone, VA	68	13,126
KingsMill Ord Pl, OH	68	13,126
Lafayette, IN	66	12,217
Athens, AL	63	10,561
Fort Hayes, OH	54	5,856
Fort Totten, NY	54	7,449
Roseau, MN	52	9,524
Crane AAP, IN	44	7,040
Fort Story, VA	42	6,254
Cando, ND	41	7,606
Clinton, MA	41	7,606
Nashville, TN	39	3,786
Arden Hills, MN	38	8,041
Volk Field, WI	37	6,153
Letterkenny Depot, PA	30	4,800
Allendale, SC	29	4,399
Fulton, MO	27	3,568
Selfridge ANGB, MO	23	2,530
Trenton, NJ	15	1,670
Tacoma, WA	12	1,952
Baldin, NC	6	616
Yorktown NWS, VA	6	960
Earle NWS, NJ	4	640
Pope AFB, NC	4	394
Williamsburg, VA	3	772
Charleston NWS, SC	2	320

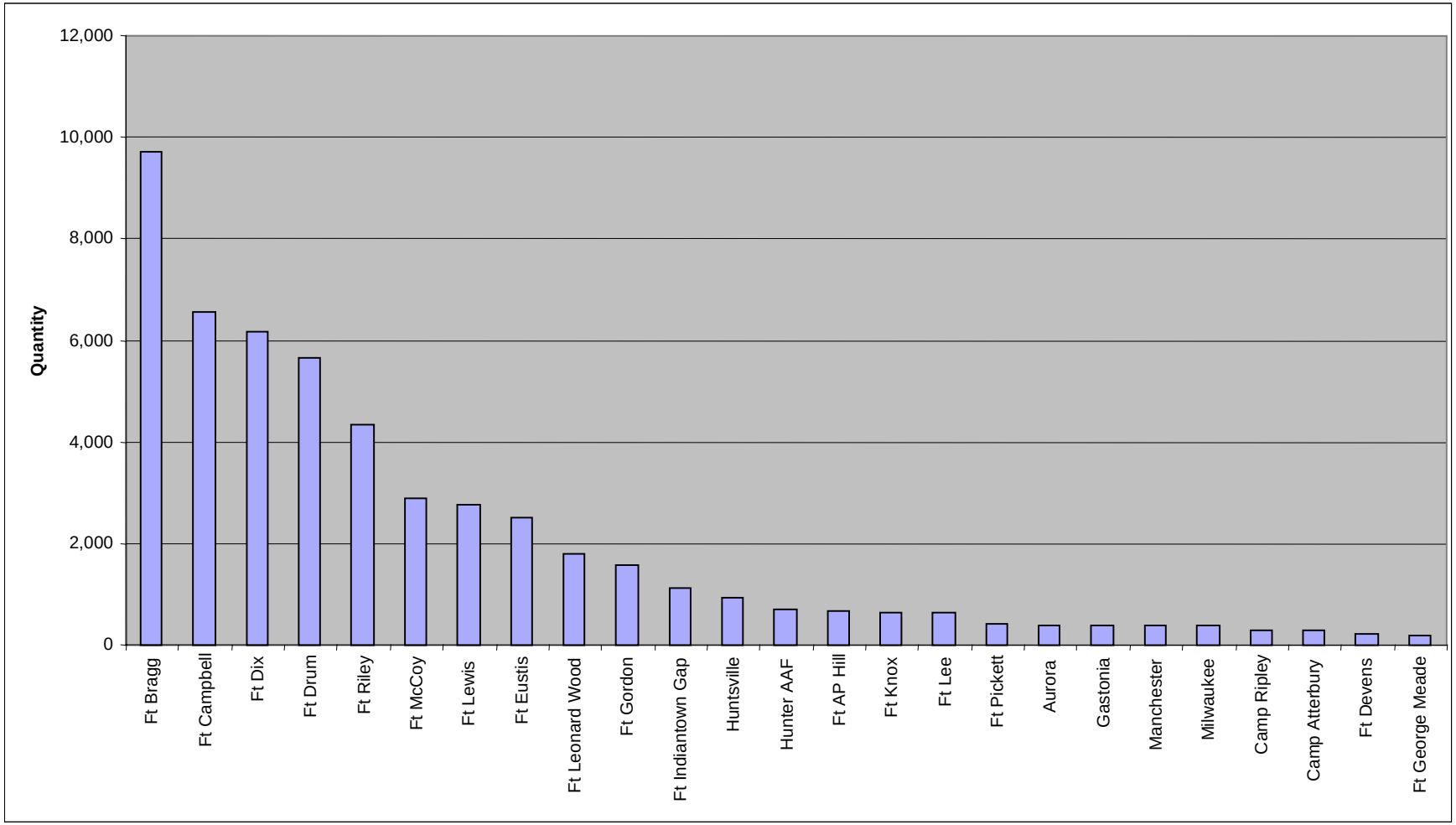


Figure A-30. Quantity of Items Arriving at the Port of Charleston by Origin

Table A-3
Quantity of Items Arriving at the Port of Charleston by Origin
(Origins not in Figure A-30)

ORIGIN	QTY	ORIGIN	QTY
Akron, Oh	196	Warren, RI	73
Ashland, OH	196	Warwick, RI	73
Cherokee, IO	196	Hartford, CT	71
Dexter, MO	196	Blackstone, VA	68
Fort Benning, GA	196	Kings Mill Ord Pl, OH	68
Jefferson City, MO	196	Lafayette, IN	66
Lincoln, NE	196	Athens, Al	63
Philadelphia, PA	187	Fort Hayes, OH	54
Baltimore, MD	183	Fort Totten, NY	54
Fort Jackson, SC	181	Roseau, MN	52
W Jordan, UT	181	Crane AAP, IN	44
Rolla, MO	177	Fort Story, VA	42
Sault St Marie, MI	177	Cando, ND	41
Aberdeen Proving Gr, MD	166	Clinton, MA	41
Beaver Falls, PA	147	Nashville, TN	39
Billings, MT	140	Arden Hills, MN	38
Jersey City, NJ	137	Volk Field, WI	37
Fort Lawton, WA	124	Letterkenny Depot, PA	30
Roanoke, VA	124	Allendale, SC	29
Philadelphia, PA	113	Fulton, MO	27
Bristol, PA	104	Selfridge ANGB, MO	23
Cape May, NJ	104	Trenton, NJ	15
Camp Grayling, MI	101	Tacoma, WA	12
Casper, WY	98	Badin, NC	6
Ogden, UT	76	Yorktown NWS, VA	6
Shaw AFB, SC	74	Earle NWS, NJ	4
Brockton, MA	73	Pope AFB, NC	4
Hempstead, NY	73	Williamsburg, VA	3
Middletown, RI	73	Charleston NWS, SC	2

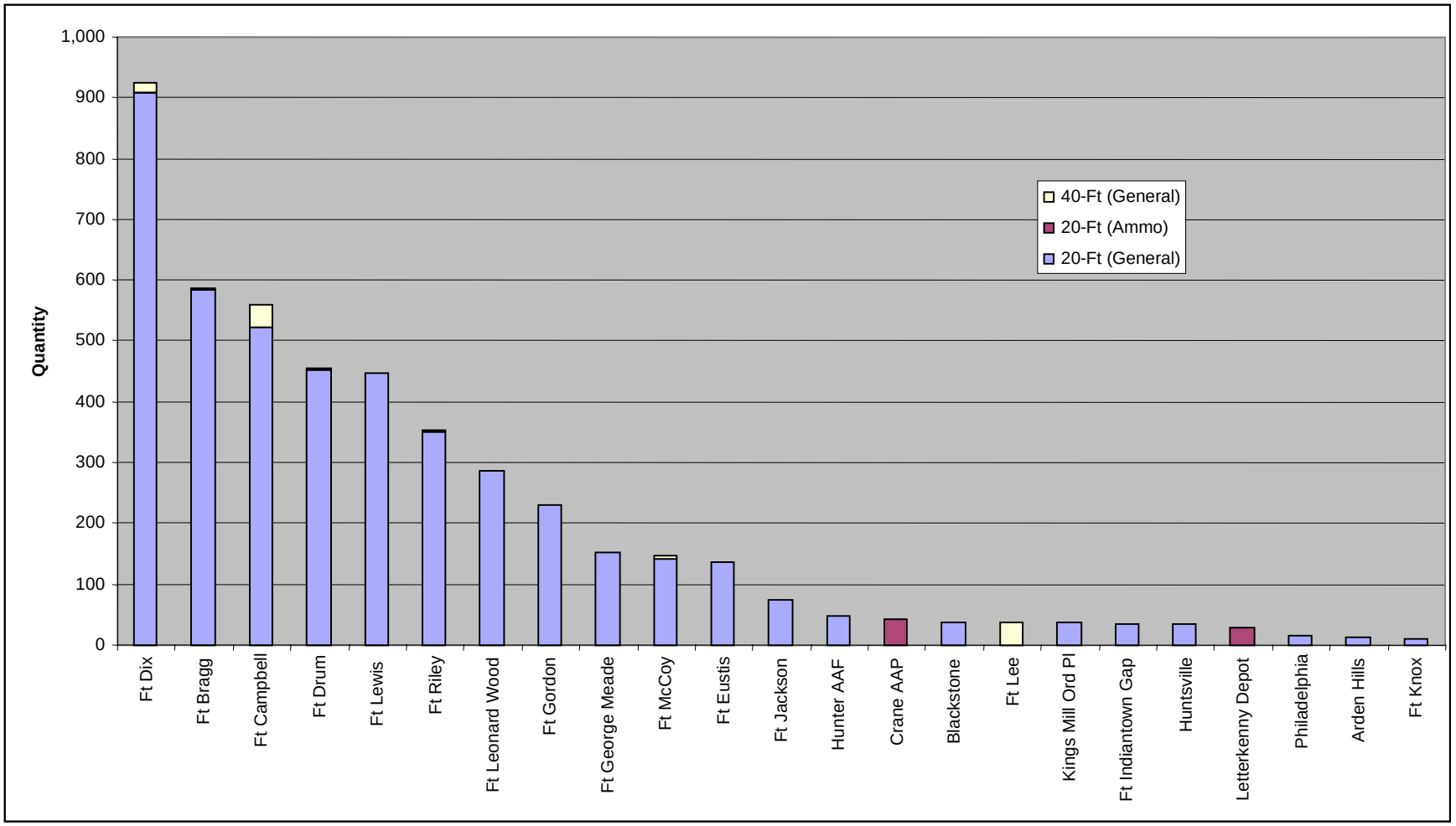


Figure A-31. Quantity of Containers Arriving at the Port of Charleston by Origin

Table A-4
Quantity of Containers Arriving at the Port of Charleston by Origin
(Origins not in Figure A-31)

ORIGIN	20-FT (General)	20-FT (Ammo)	40-FT (General)	TOTAL
Ogden, UT	9			9
W Jordan, UT	8			8
Aurora, IL	5	1		6
Fort A P Hill, VA	5		1	6
Gastonia, NC	5		1	6
Manchester, NH	5		1	6
Milwaukee, WI	5		1	6
Yorktown NWS, VA		6		6
Camp Atterbury, IN	4			4
Earle NWS, NJ		4		4
Camp Ripley , MN	1		2	3
Fort Pickett, VA	3			3
Aberdeen Proving Ground, MD	2			2
Athens, AL	2			2
Billings, MT	2			2
Charleston NWS, SC		2		2
Lafayette, IN	2			2
Roseau, MN	2			2
Baltimore, MD	1			1
Casper, WY	1			1
Fort Totten, NY	1			1
Nashville, TN	1			1
Rolla, MO	1			1
Sault St Marie, MI	1			1

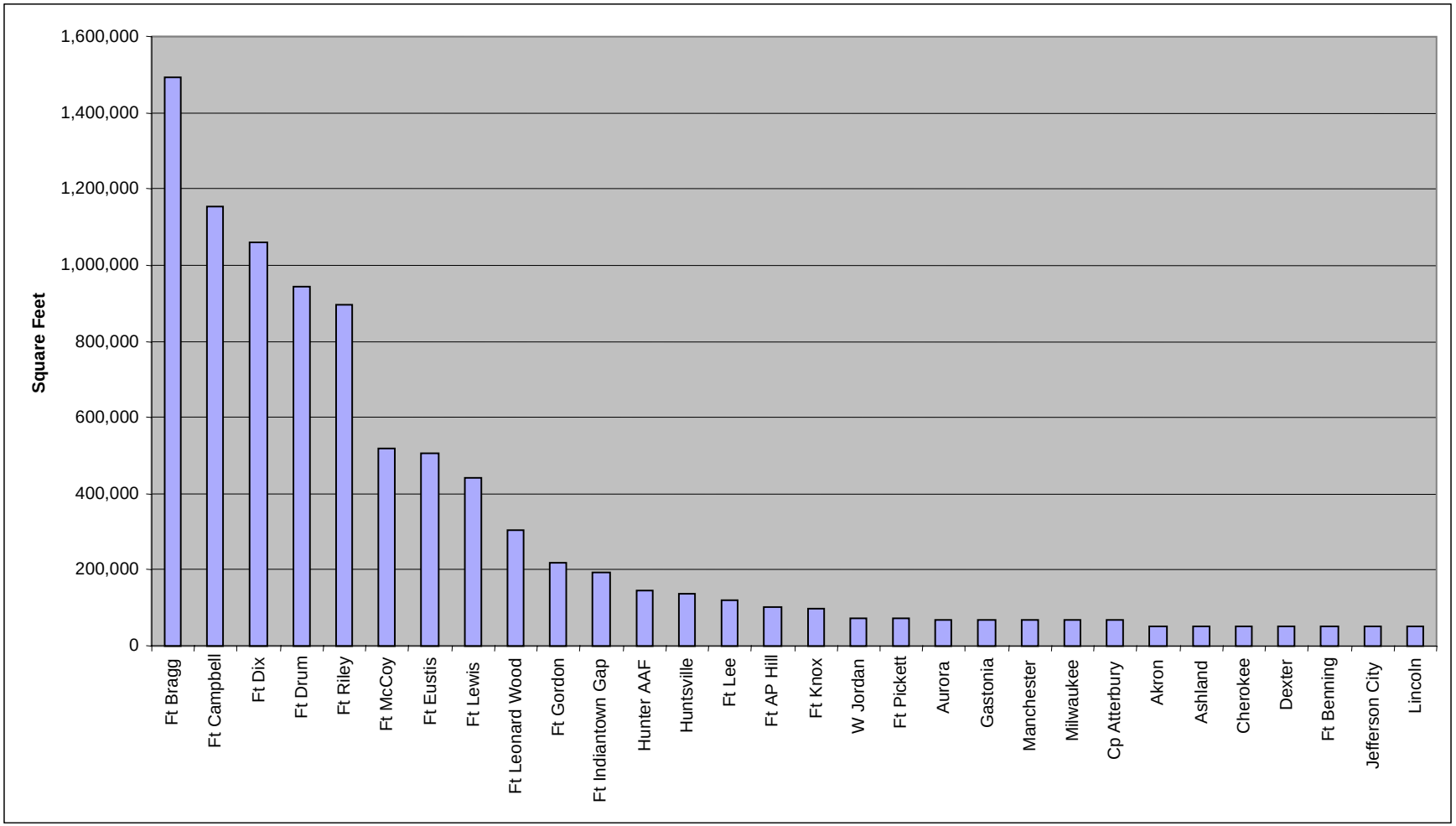


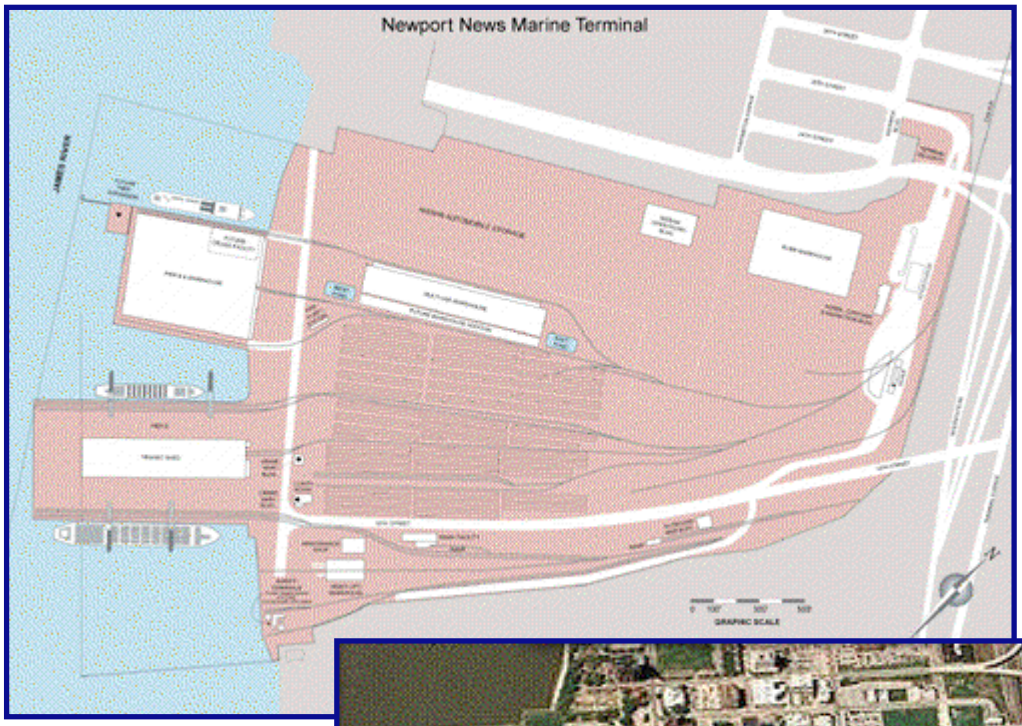
Figure A-32. Square Feet of Cargo Arriving at the Port of Charleston by Origin

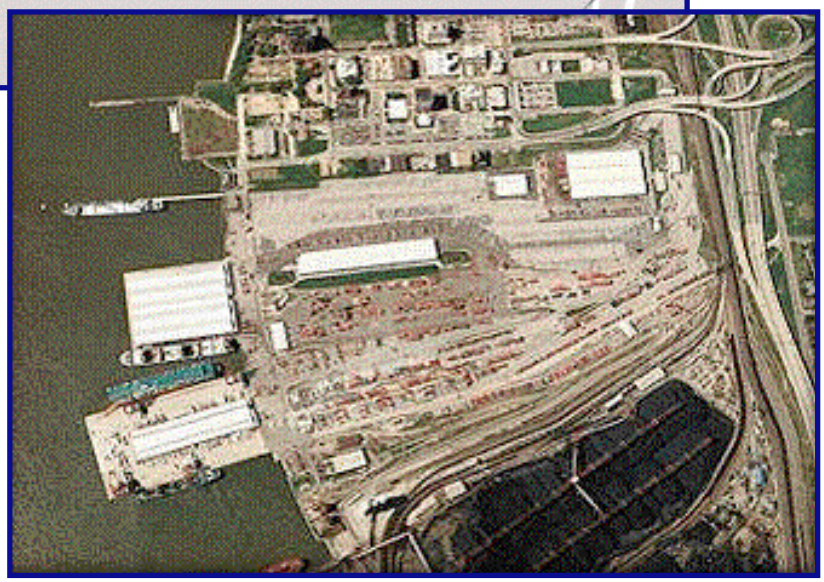
Table A-5
Square Feet of Cargo Arriving at the Port of Charleston by Origin
(Origins not in Figure A-32)

ORIGIN	SQUARE FEET	ORIGIN	SQUARE FEET
Fort Devens, MA	49,396.5	Arden Hills, MN	8,040.7
Camp Ripley, MN	45,616.3	Hartford, CT	7,920.4
Rolla, MO	34,528.2	Cando, ND	7,605.6
Sault St Marie, MI	34,528.2	Clinton, MA	7,605.6
Baltimore, MD	33,302.2	Fort Totten, NY	7,448.9
Fort Jackson, SC	31,596.0	Crane AAP, IN	7.040.0
Fort George Meade, MD	31,571.2	Fort Story, VA	6,253.6
Jersey City, NJ	30,768.3	Volk Field, WI	6,153.0
Billings, MT	25,615.4	Fort Hayes, OH	5,856.0
Philadelphia, PA	24,127.3	Letterkenny Depot, PA	4,800.0
Aberdeen Proving Ground, MD	23,421.2	Allendale, SC	4,398.9
Bristol, PA	19,715.9	Nashville, TN	3,785.7
Cape May, NJ	19,715.9	Fulton, MO	3,467.6
Beaver Falls, PA	19,008.0	Selfridge ANGB, MO	2,529.8
Philadelphia, PA	18,080.0	Tacoma, WA	1,952.3
Fort Lawton, WA	16,598.3	Trenton, NJ	1,669.7
Roanoke, VA	16,598.3	Yorktown NWS, VA	960.0
Casper, WY	16,317.5	Williamsburg, VA	771.8
Blackstone, VA	13,126.0	Earle NWS, NJ	640.0
Kings Mill Ord Pl, OH	13,126.0	Badin, NC	616.3
Lafayette, IN	12,217.2	Pope AFB, NC	394.3
Camp Grayling, MI	11,098.1	Charleston NWS, SC	320.0
Athens, AL	10,560.9		
Ogden, UT	10,322.1		
Roseau, MN	9,523.7		
Shaw AFB, SC	9,475.2		
Brockton, MA	8,080.2		
Hempstead, NY	8,080.2		
Middletown, RI	8,080.2		
Warren, RI	8,080.2		
Warwick, RI	8,080.2		

APPENDIX B

PORT OF HAMPTON ROADS





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According to the TPFDD, there are four origins sending cargo to the Port of Hampton Roads. These origins are shown in Figure B-1. The Port of Hampton Roads receives a mix of Army, Navy, Air Force, Marine Corps and Coast Guard, with the bulk of the workload being Marine Corp cargo. Origins in excess of 400 miles send all of their cargo to the Port of Hampton Roads by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. Figures B-2 through B-5 show the quantity of transports (containers, railcars, and convoying vehicles) required to move to the Port of Hampton Roads.

Figures B-6 through B-10 illustrate the quantity of items arriving at the port. Figure B-6 is the total quantity of items. Figures B-7 through B-10 break this down into more detail. Figure B-7 outlines the wheeled vehicles. Figure B-8 is the number of floating craft arriving at the Port of Hampton Roads. Figures B-9 and B-10 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures B-6 through B-10, which lay out the quantity of items arriving, Figure B-11 through B-15 outline the square footage of these categories of cargo.

Figures B-16 through B-21 show how cargo is arriving at the Port of Charleston. Figure B-16 through B-18 shows the number of cargo items arriving by convoy or rail. Figures B-19 through B-21 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Hampton Roads from many origins. Figure B-22 shows visually the amount of cargo coming from each origin.

Figures B-23 and B-25 show the quantity and square footage, respectively, of cargo arriving at the Port of Hampton Roads by origin. Figure B-24 is the quantity of containers arriving at the Port of Hampton Roads from each origin.

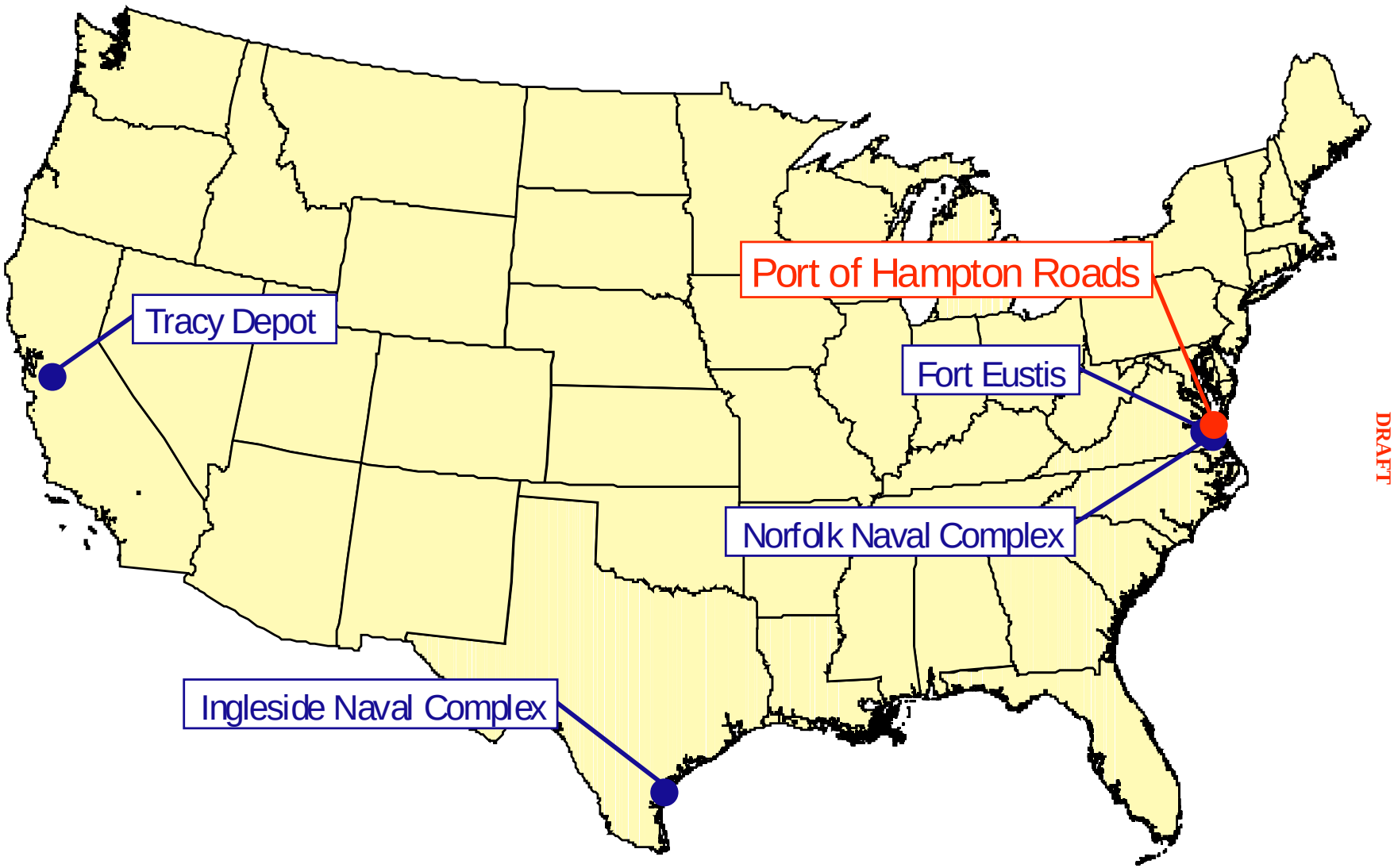

Figure B-1. Cargo Arrives at the Port of Hampton Roads from Many Origins

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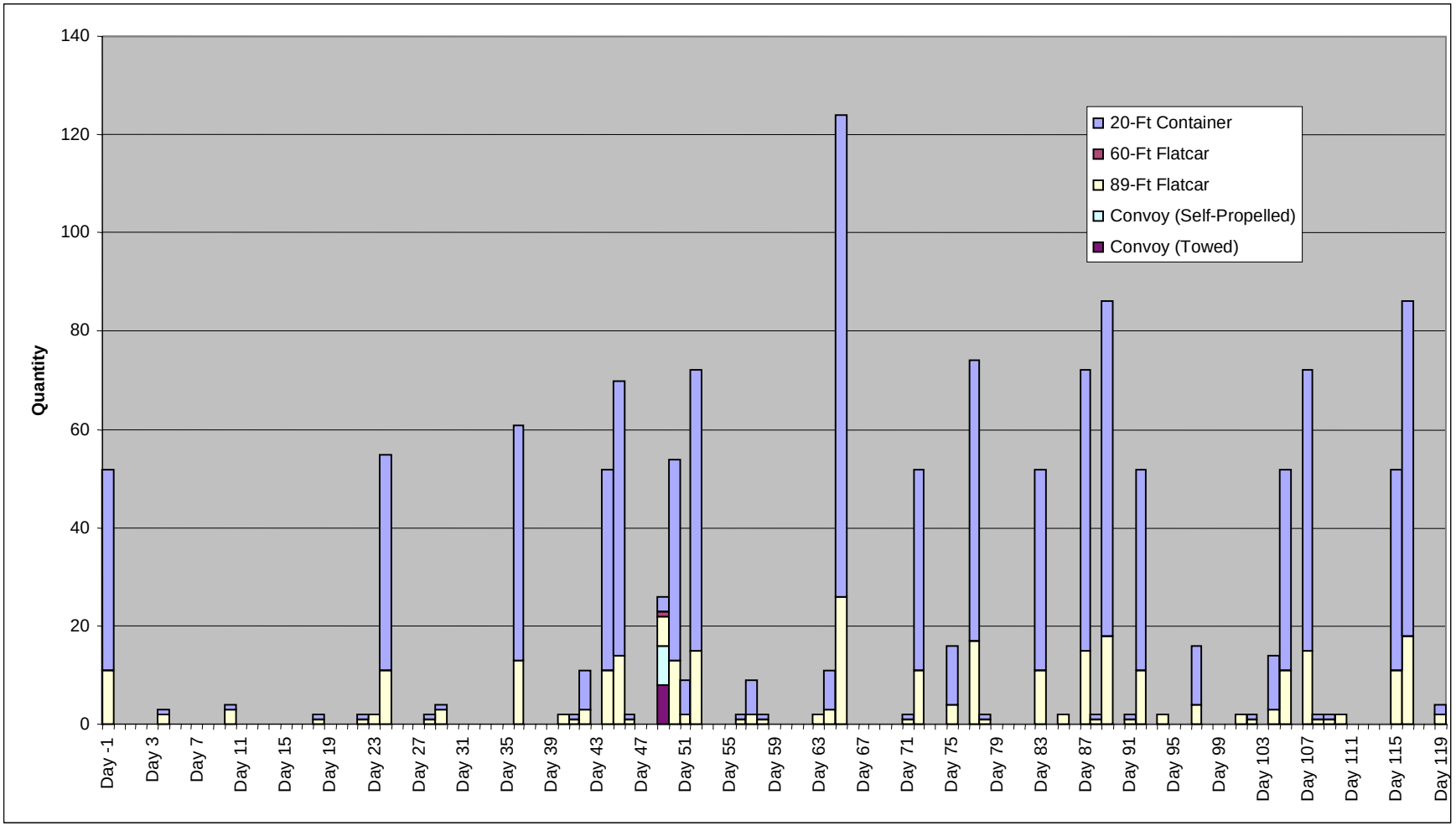

Figure B-2. Total Quantity of Transports Arriving at the Port of Hampton Roads

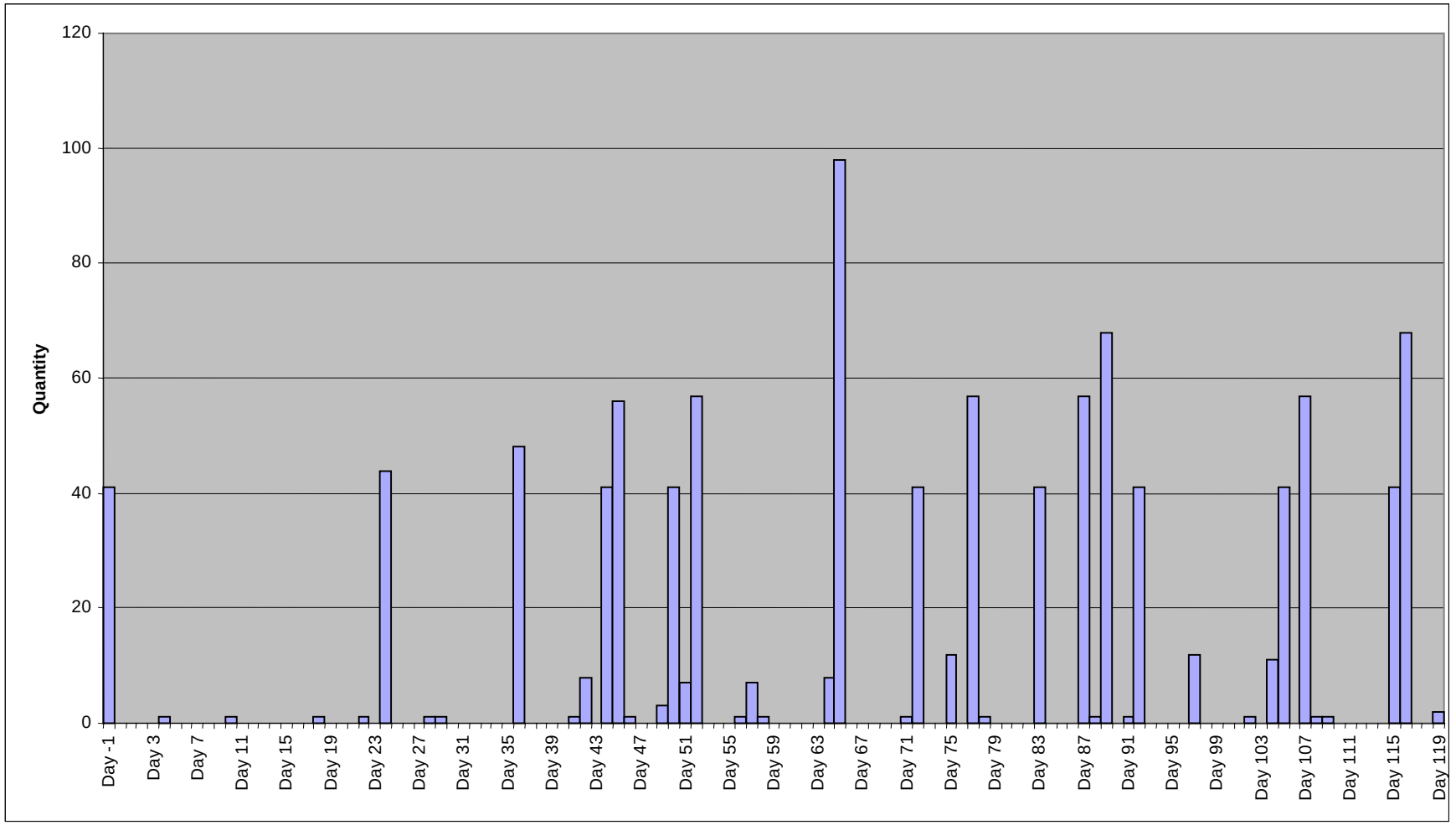

Figure B-3. Quantity of Containers Arriving at the Port of Hampton Roads

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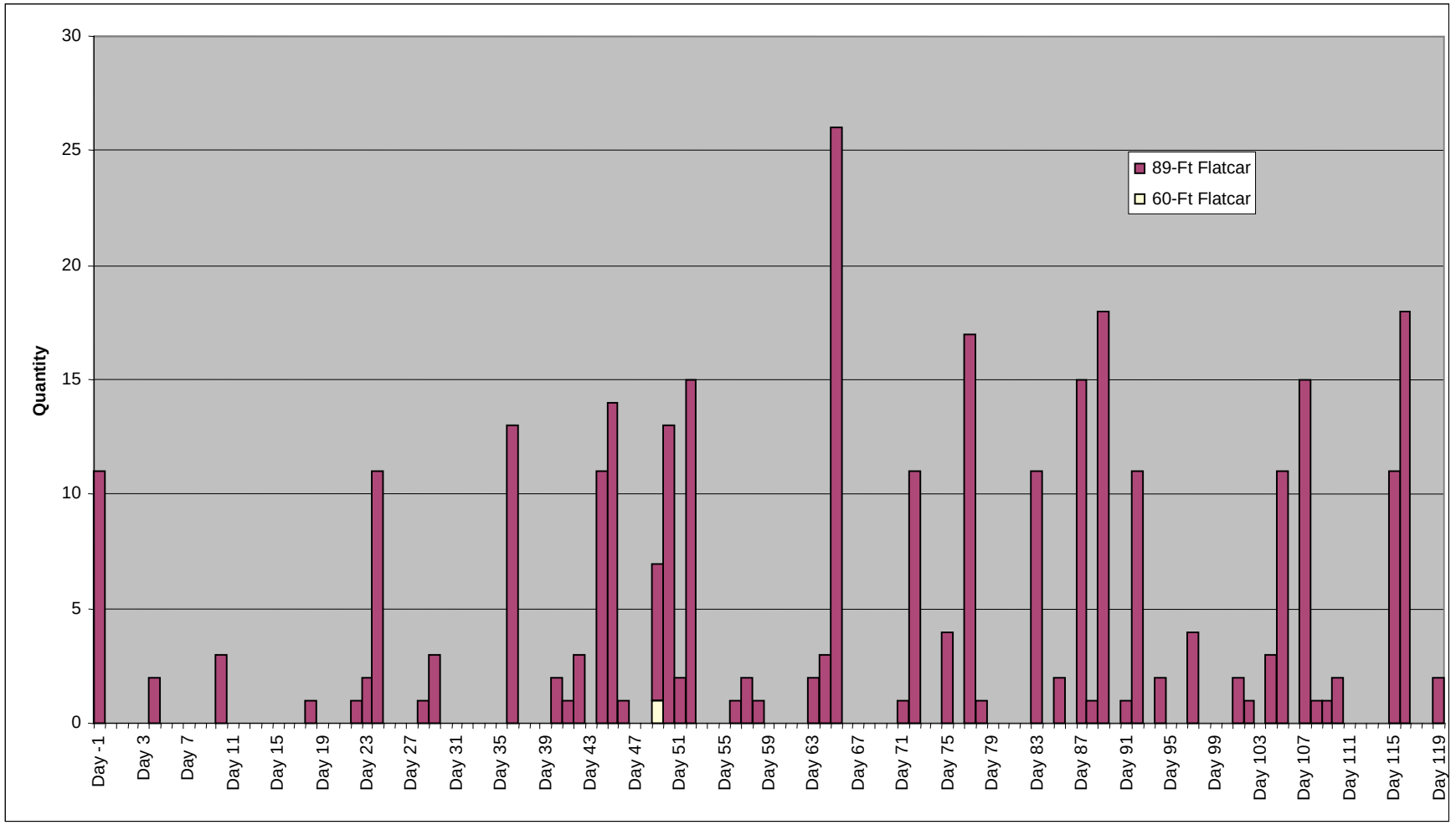

Figure B-4. Quantity of Railcars Arriving at the Port of Hampton Roads

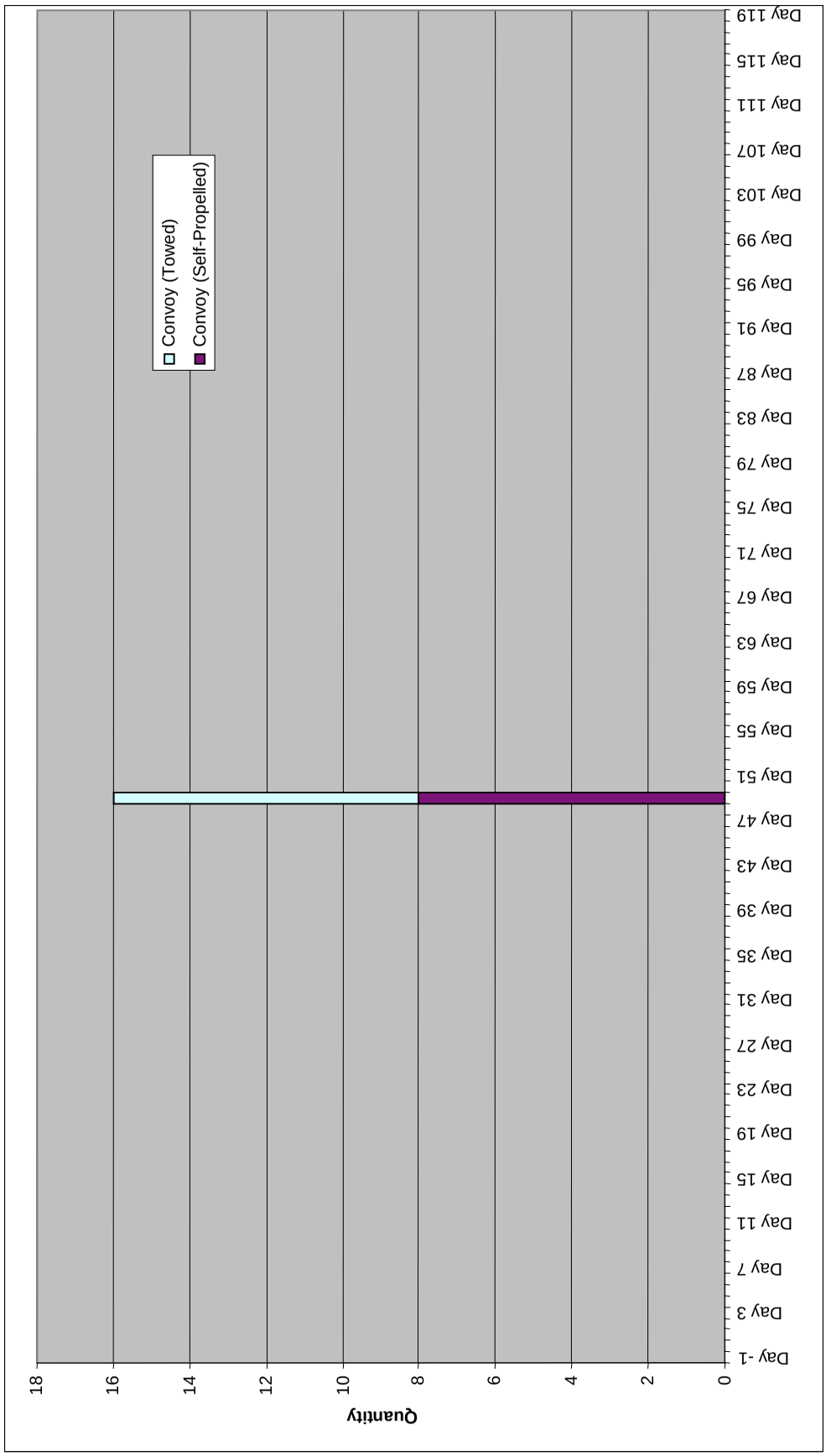

Figure B-5. Quantity of Convoy Vehicles Arriving at the Port of Hampton Roads

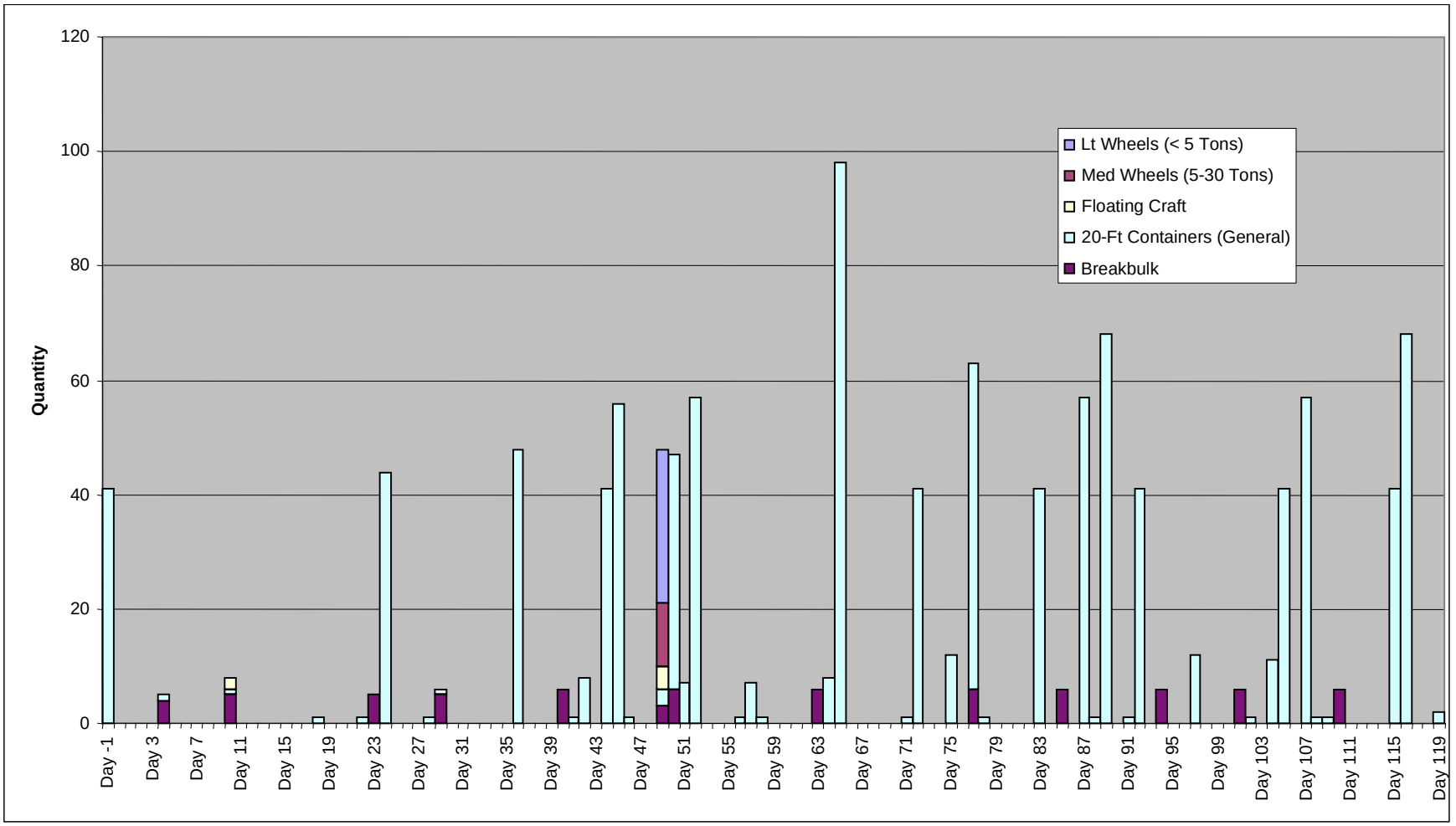

Figure B-6. Total Quantity of Items Arriving at the Port of Hampton Roads

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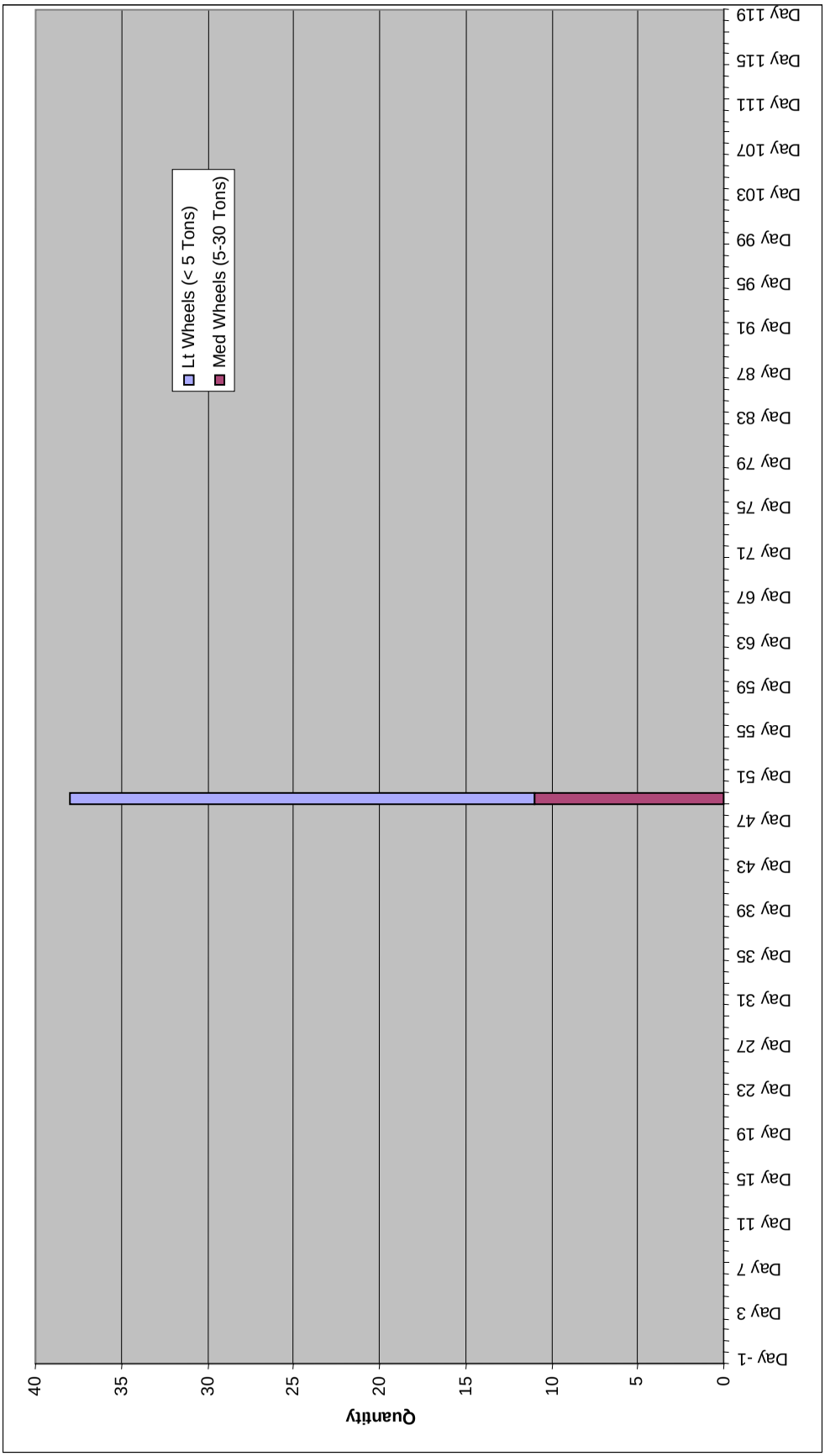

Figure B-7. Total Quantity of Wheeled Vehicles Arriving at the Port of Hampton Roads

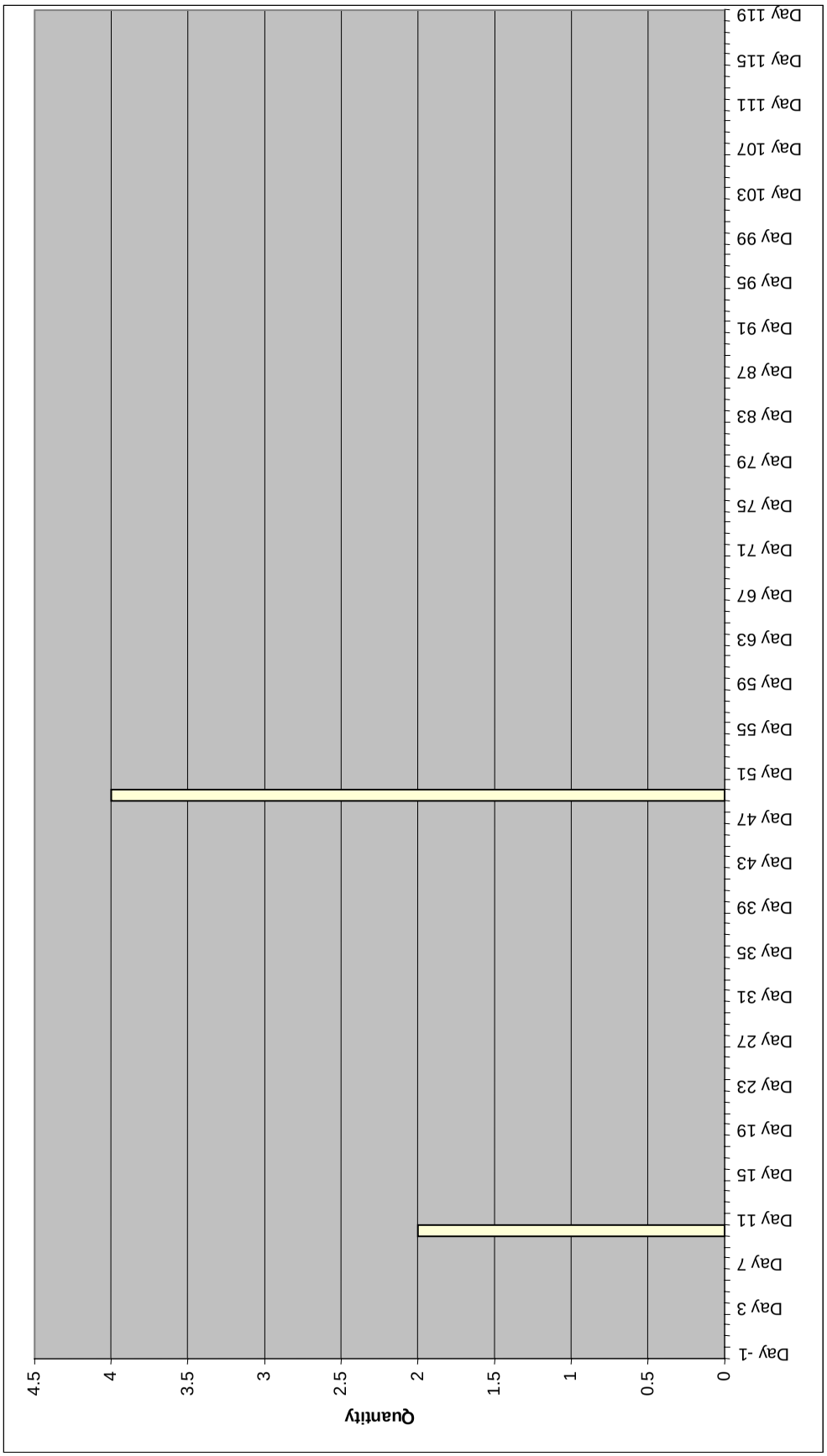

Figure B-8. Quantity of Floating Craft Arriving at the Port of Hampton Roads

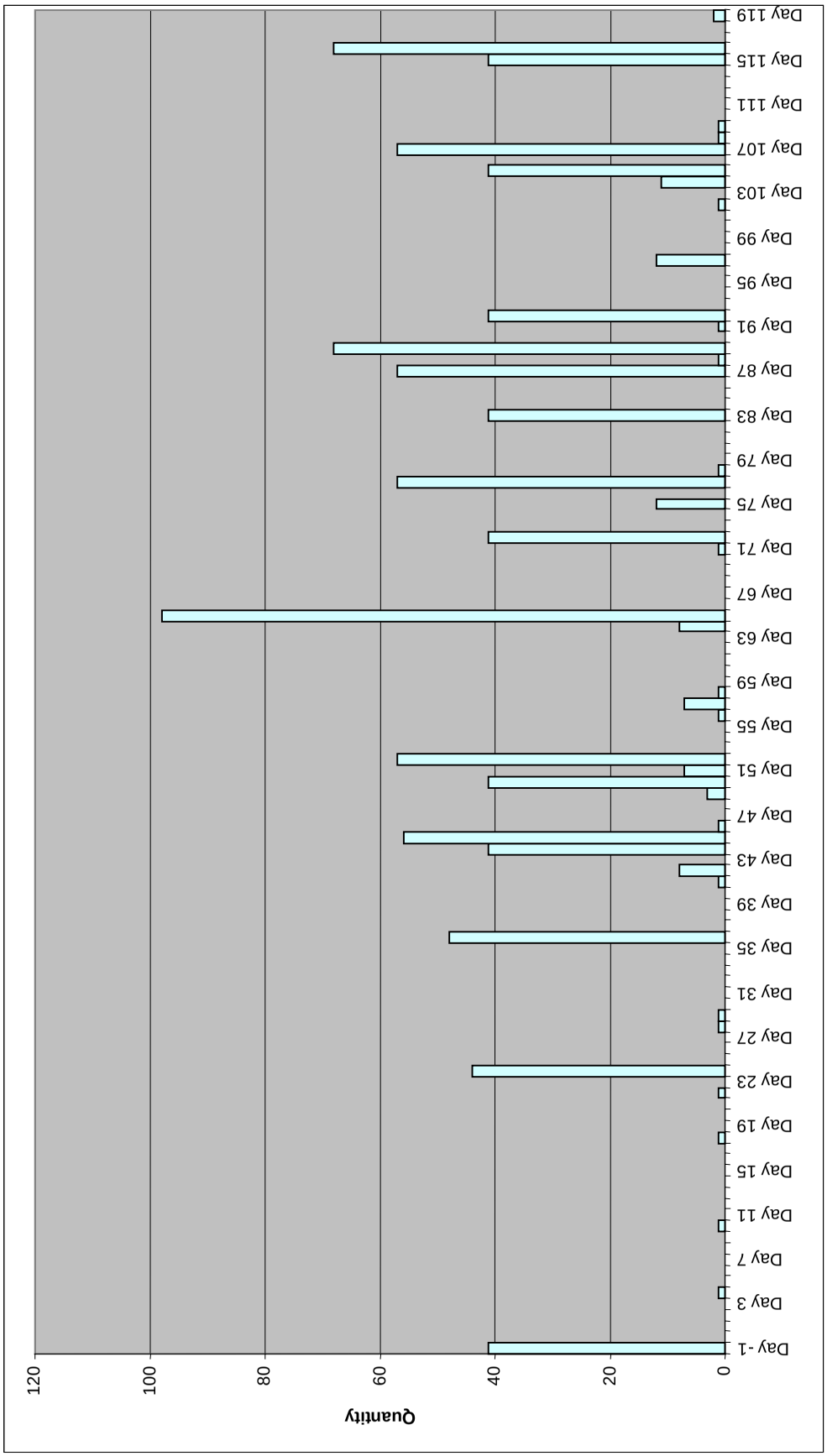

Figure B-9. Quantity of Containers Arriving at the Port of Hampton Roads

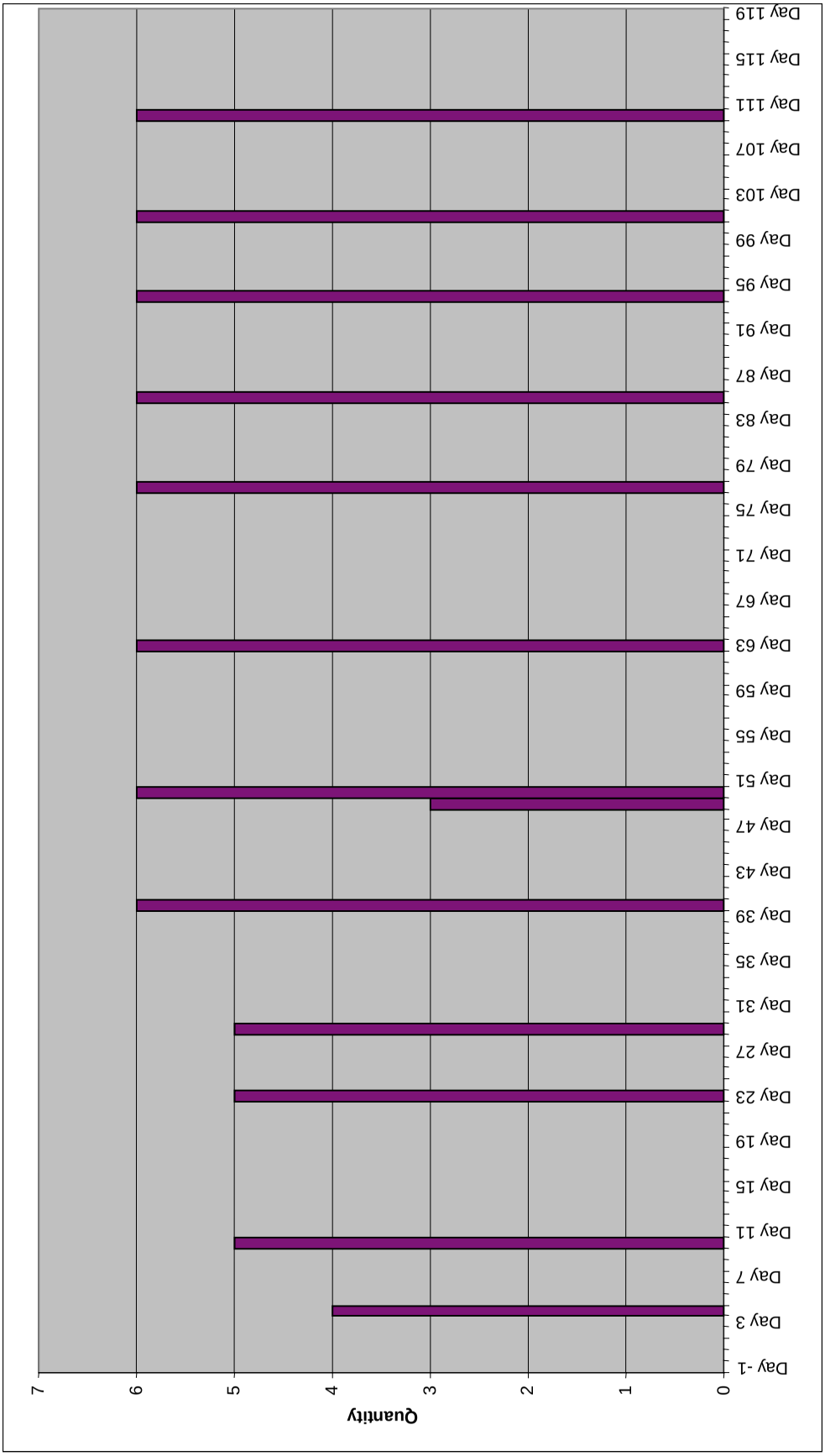

Figure B-10. Quantity of Breakbulk Cargo Items Arriving at the Port of Hampton Roads

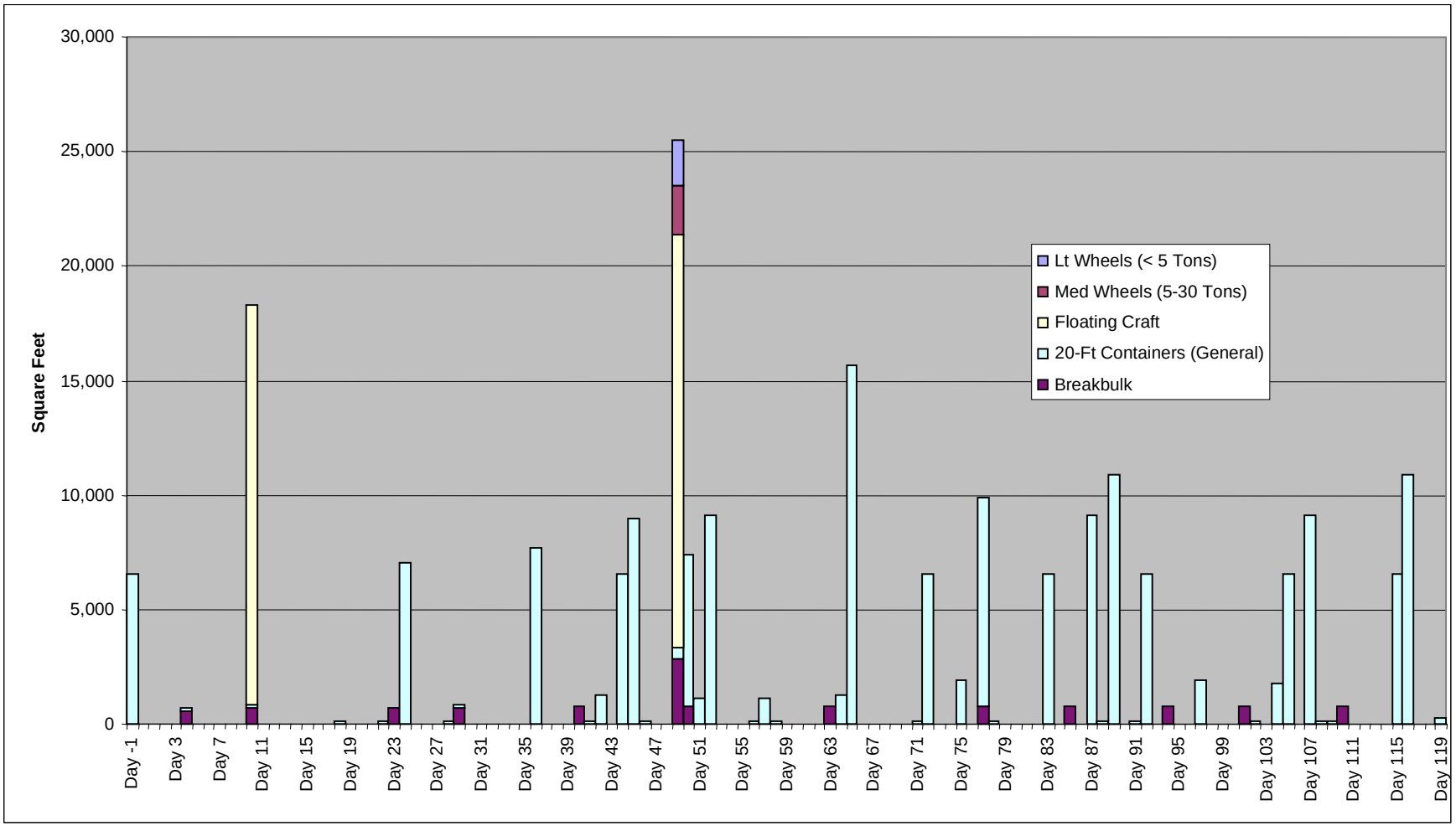

Figure B-11. Total Square Feet of Cargo Arriving at the Port of Hampton Roads

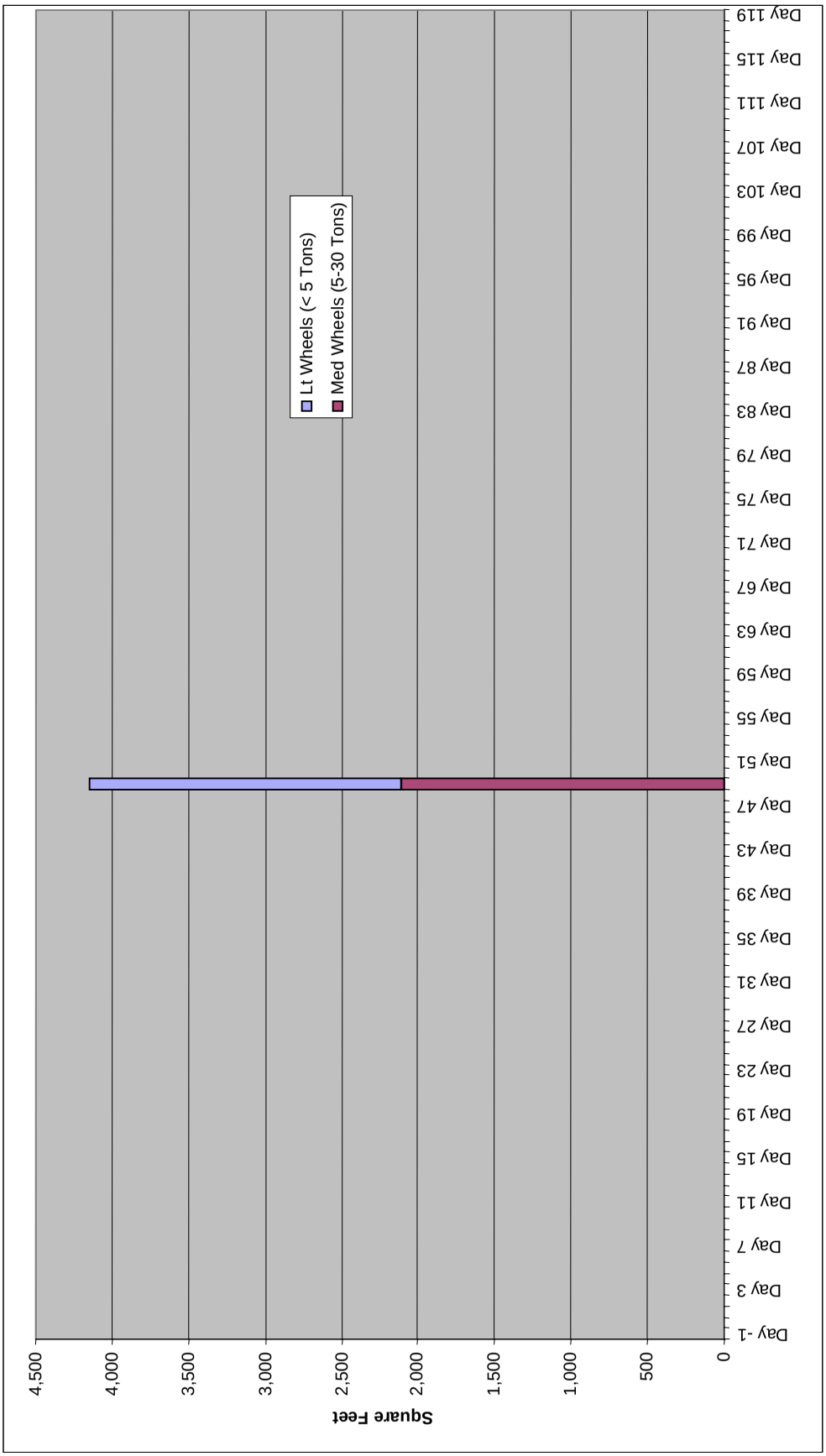

Figure B-12. Square Feet of Wheeled Vehicles Arriving at the Port of Hampton Roads

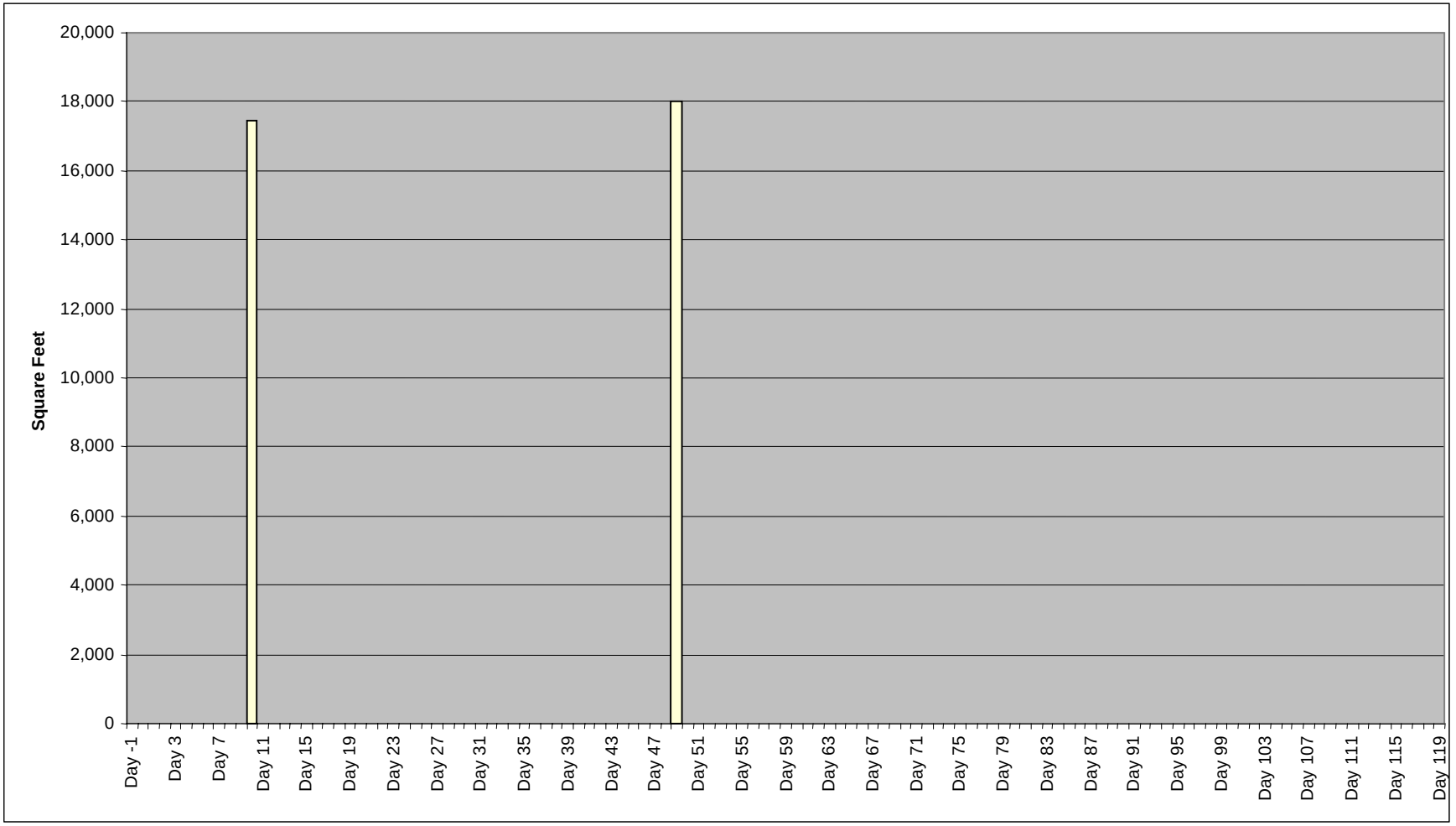

Figure B-13. Square Feet of Floating Craft Arriving at the Port of Hampton Roads

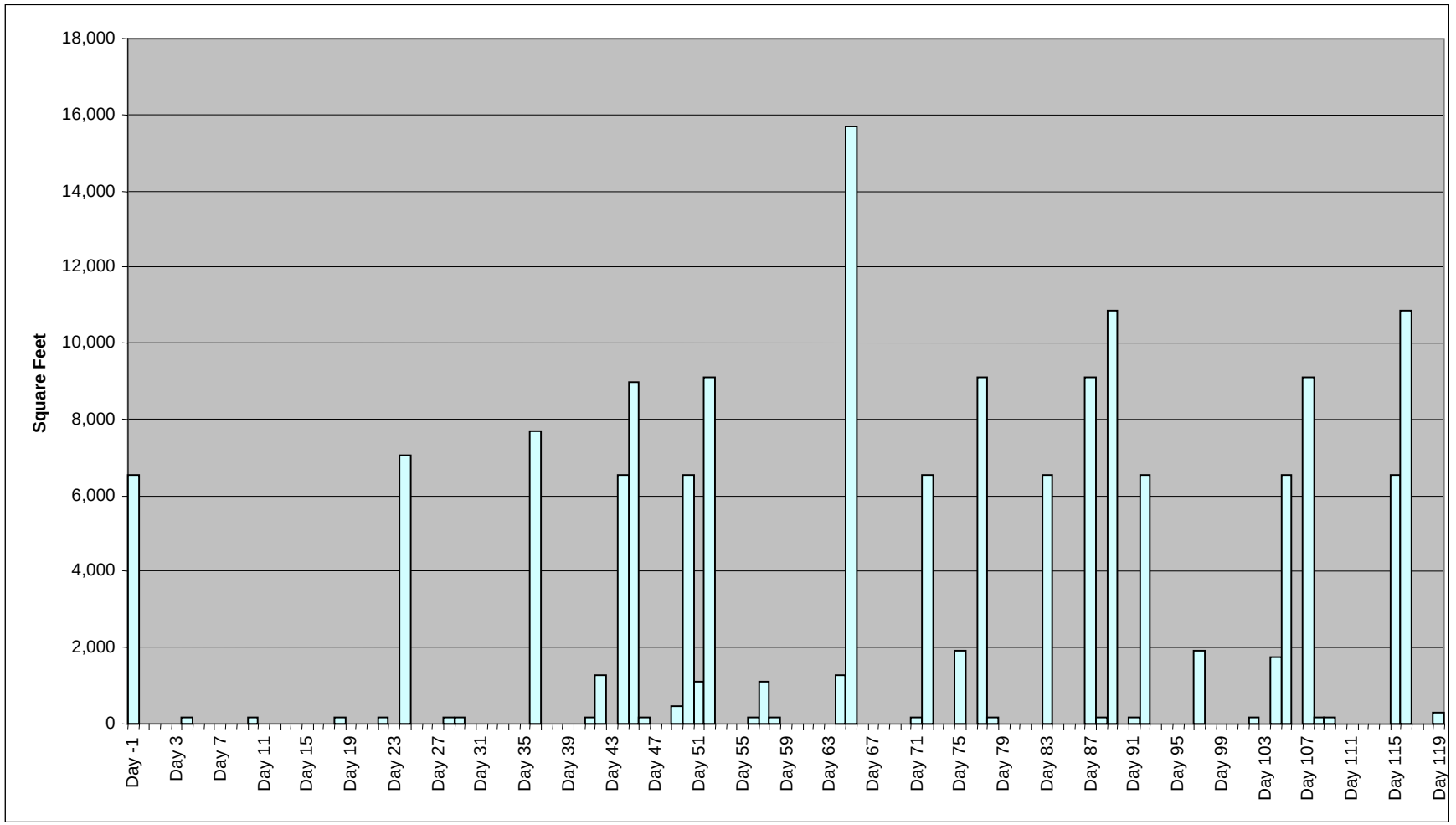

Figure B-14. Square Feet of Containers Arriving at the Port of Hampton Roads

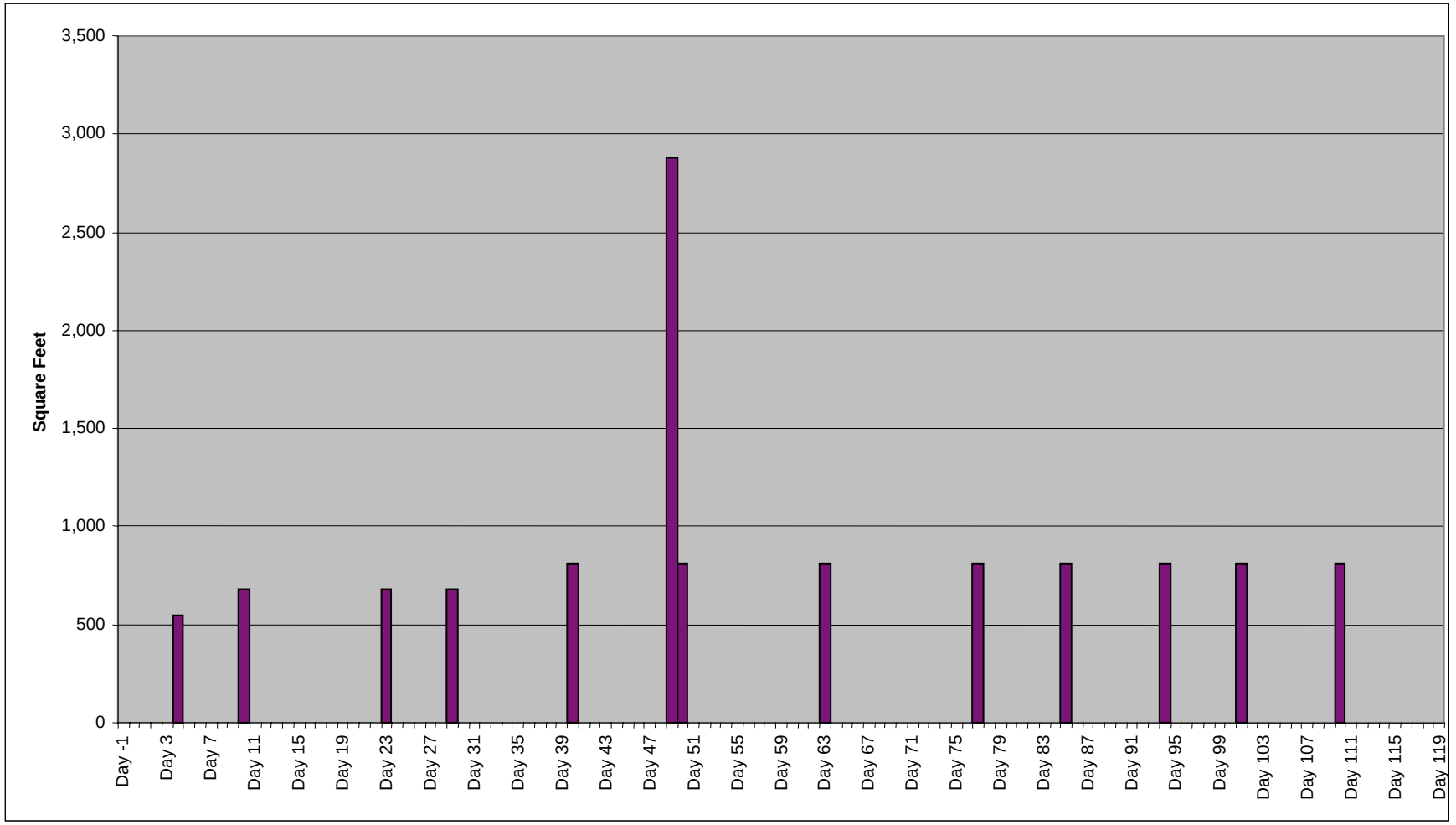

Figure B-15. Square Feet of Breakbulk Cargo Items Arriving at the Port of Hampton Roads

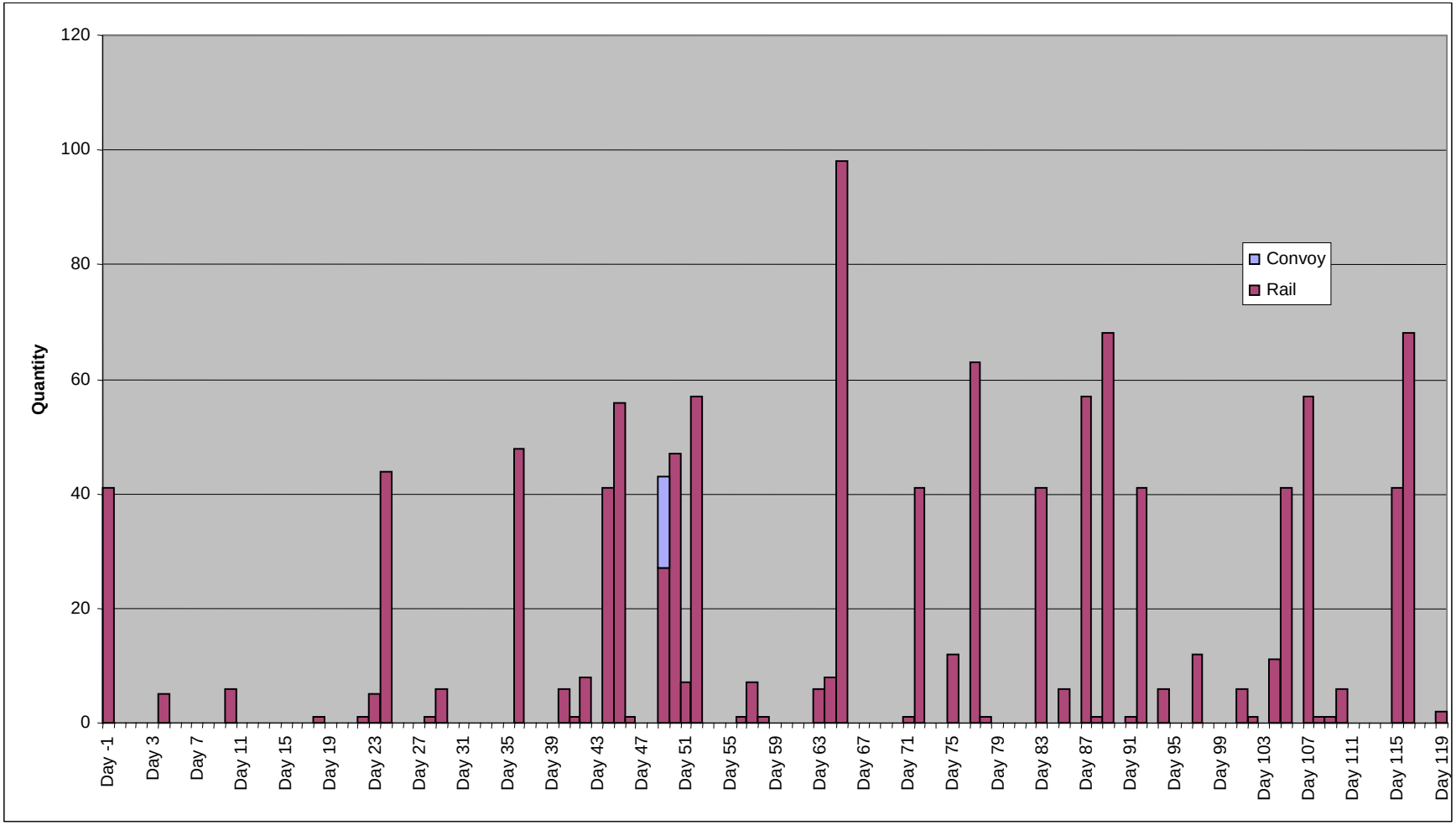

Figure B-16. Quantity of Cargo Items Arriving by Mode to the Port of Hampton Roads

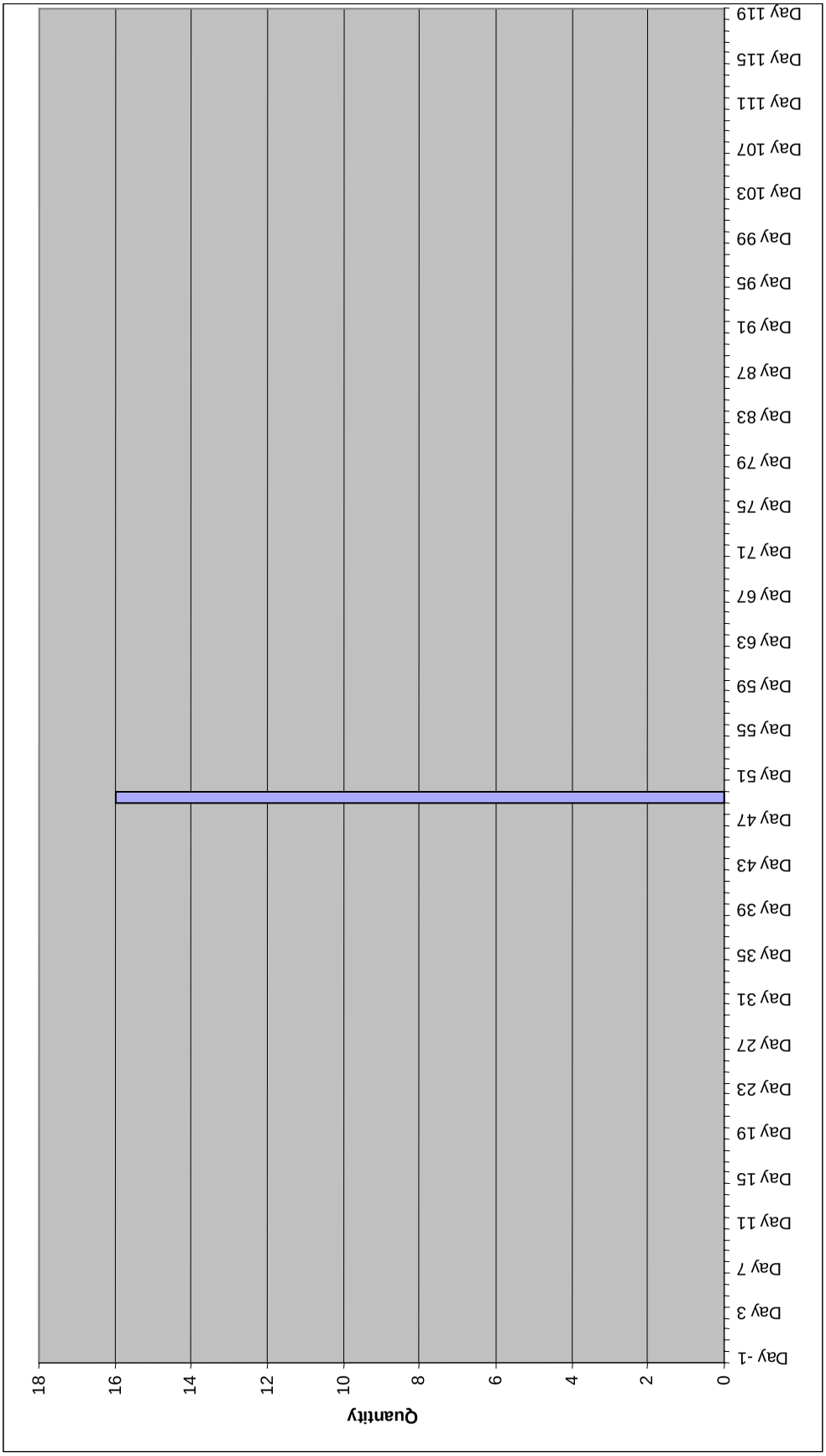

Figure B-17. Quantity of Wheeled Vehicles Convoying to the Port of Hampton Roads

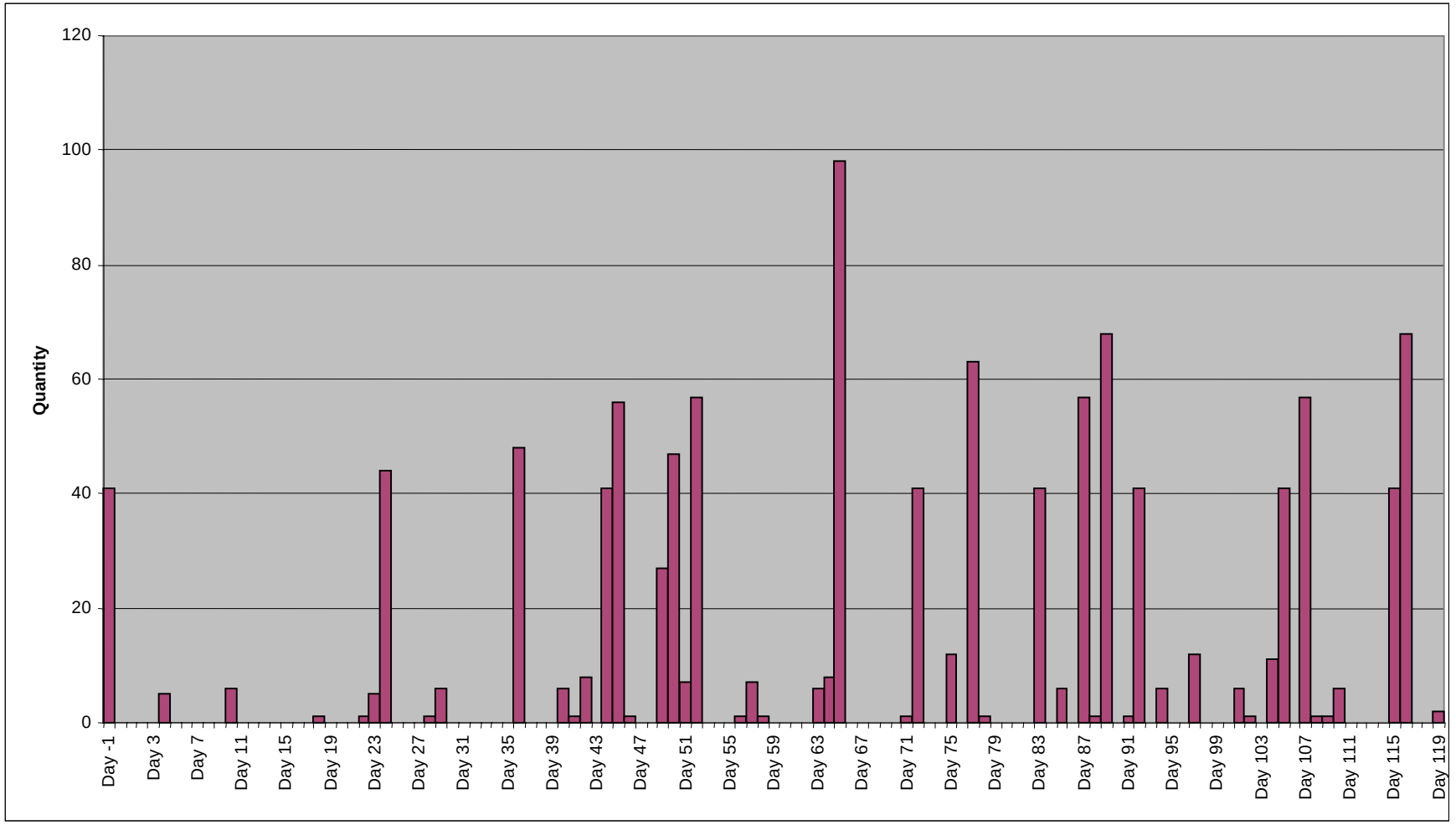

Figure B-18. Quantity of Items Arriving by Rail to the Port of Hampton Roads

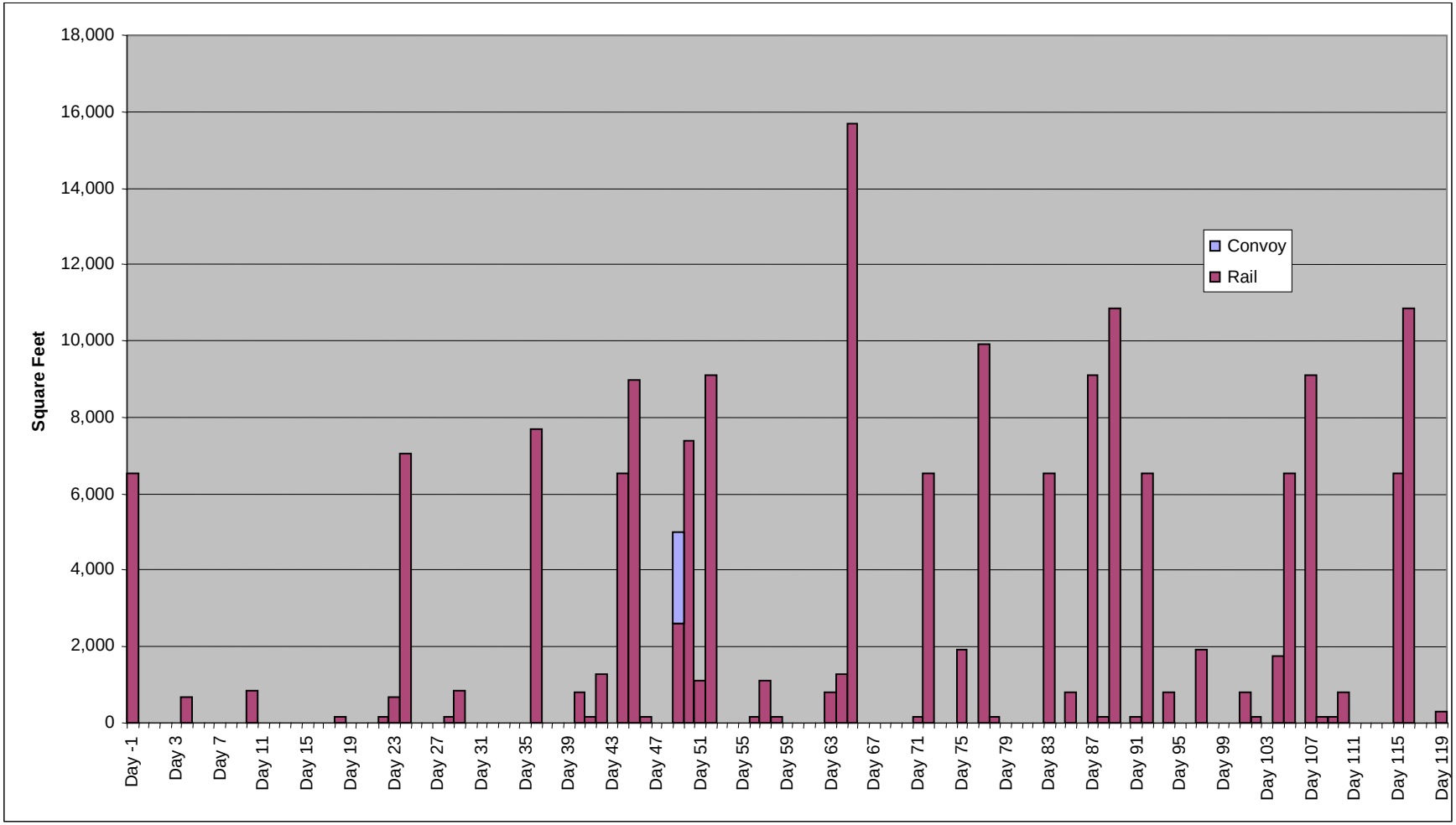

Figure B-19. Square Feet of Cargo Items Arriving by Mode to the Port of Hampton Roads

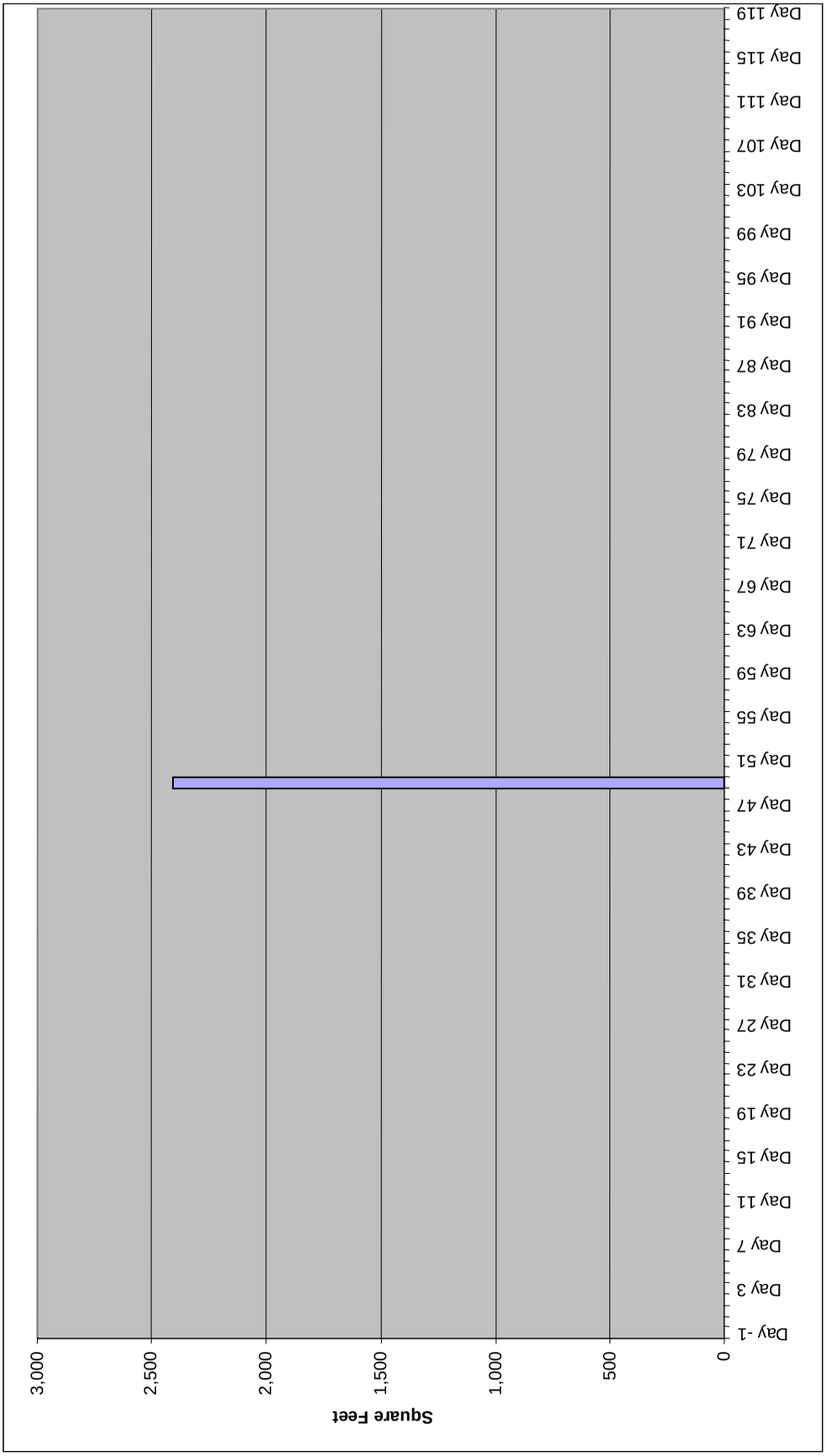

Figure B-20. Square Feet of Wheeled Vehicles Convoying to the Port of Hampton Roads

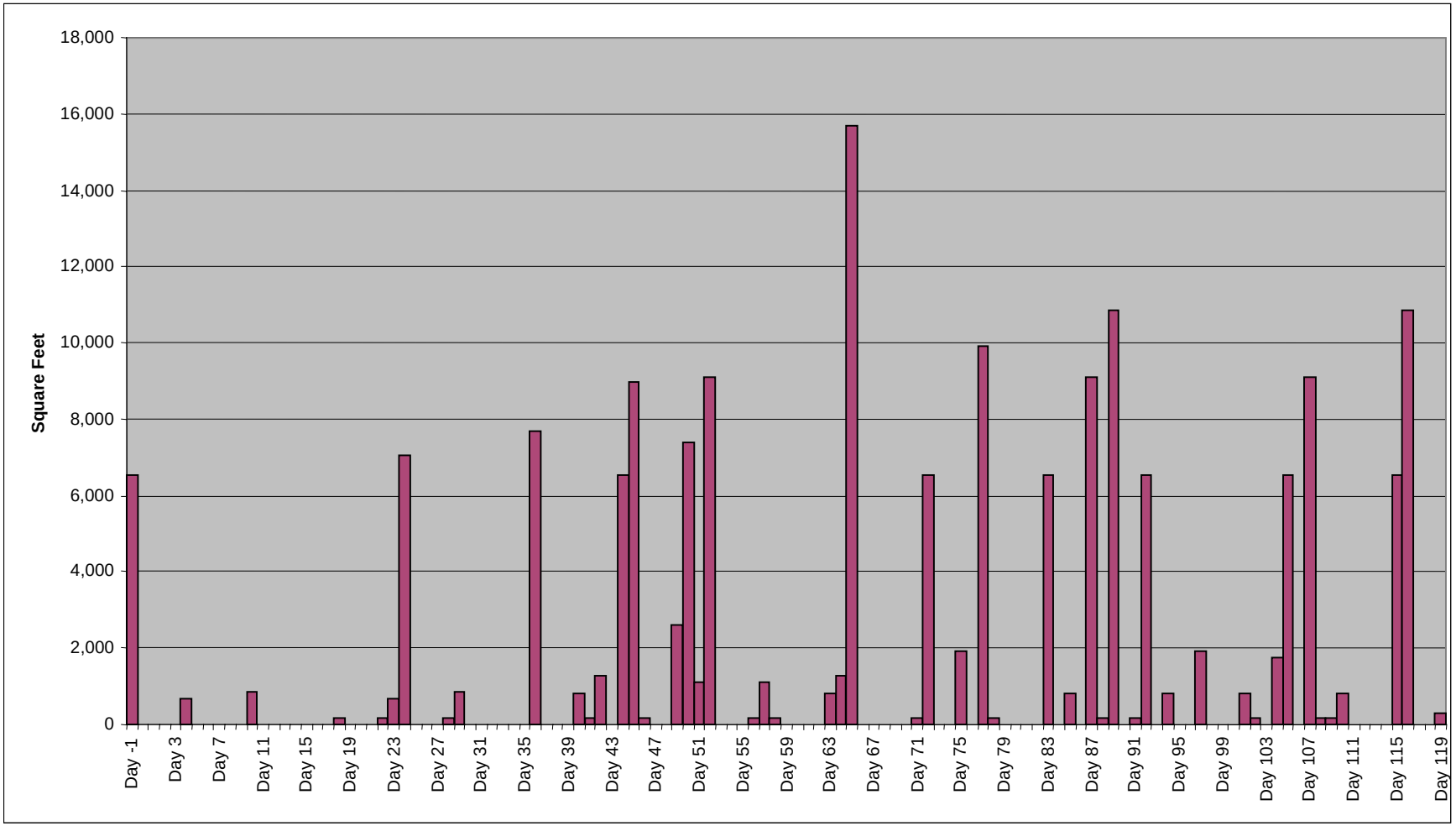

Figure B-21. Square Feet of Cargo Items Arriving by Rail to the Port of Hampton Roads

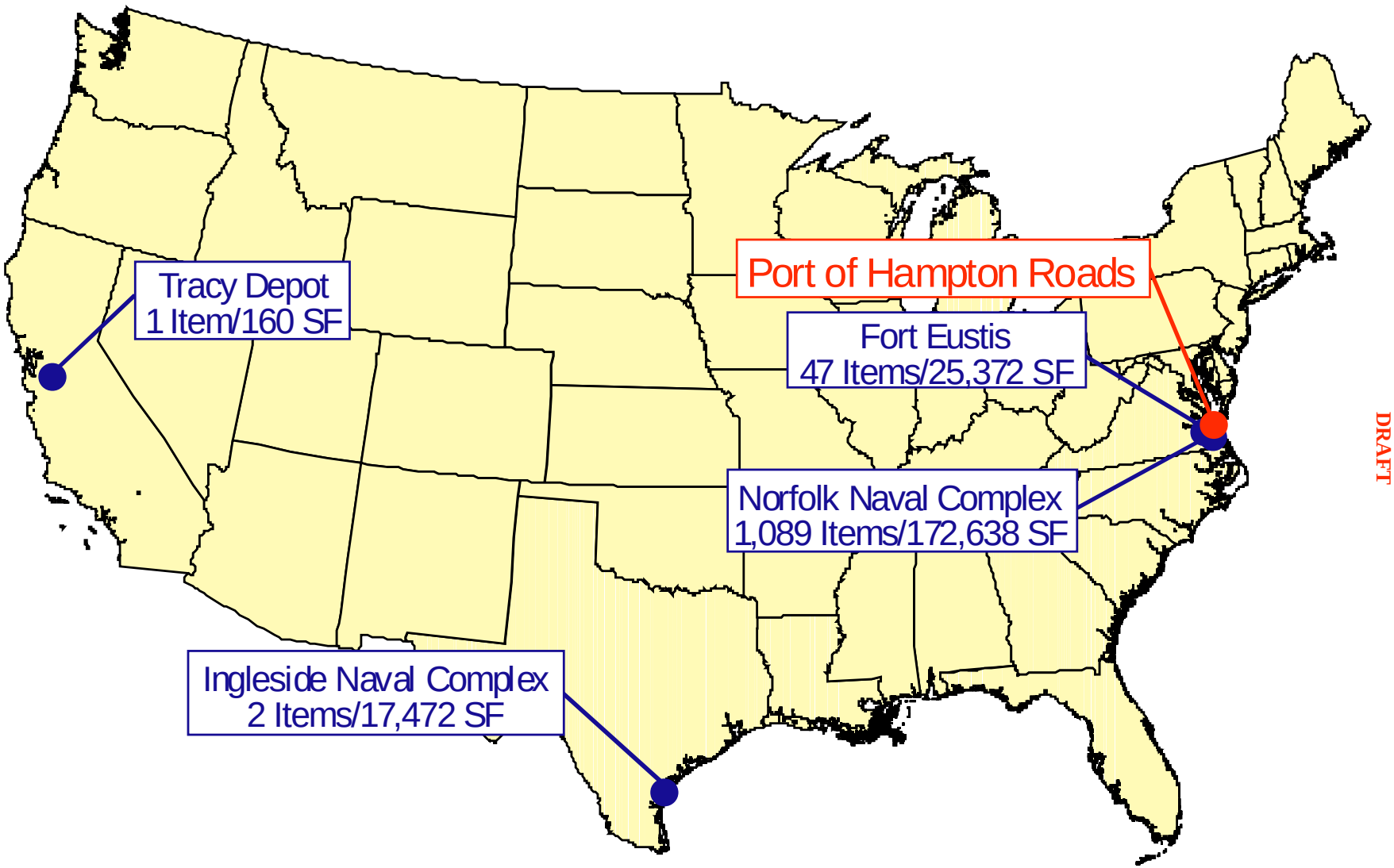

Figure B-22. Amount of Cargo Arriving at the Port of Hampton Roads by Origin

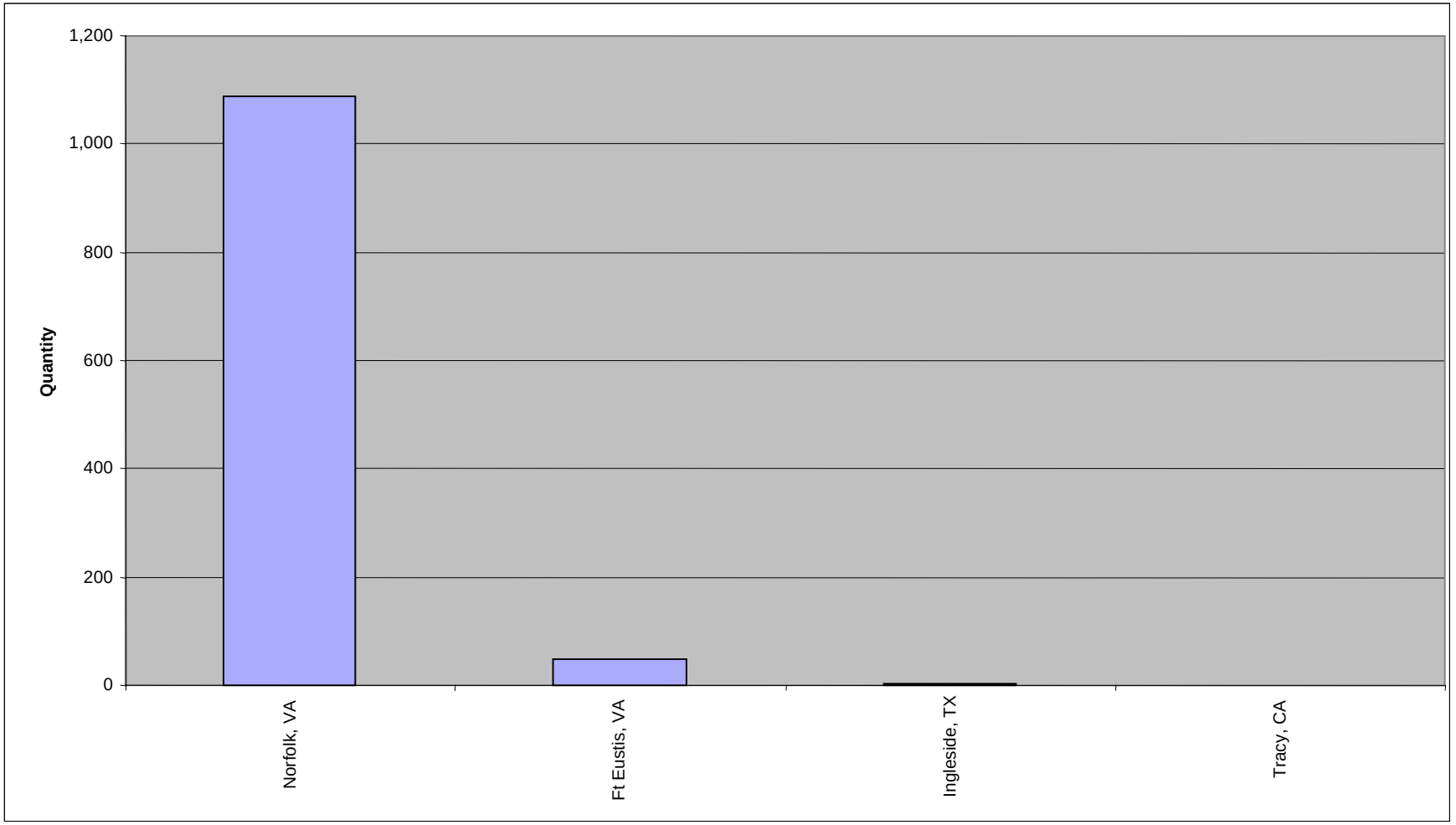

Figure B-23. Quantity of Items Arriving at the Port of Hampton Roads by Origin

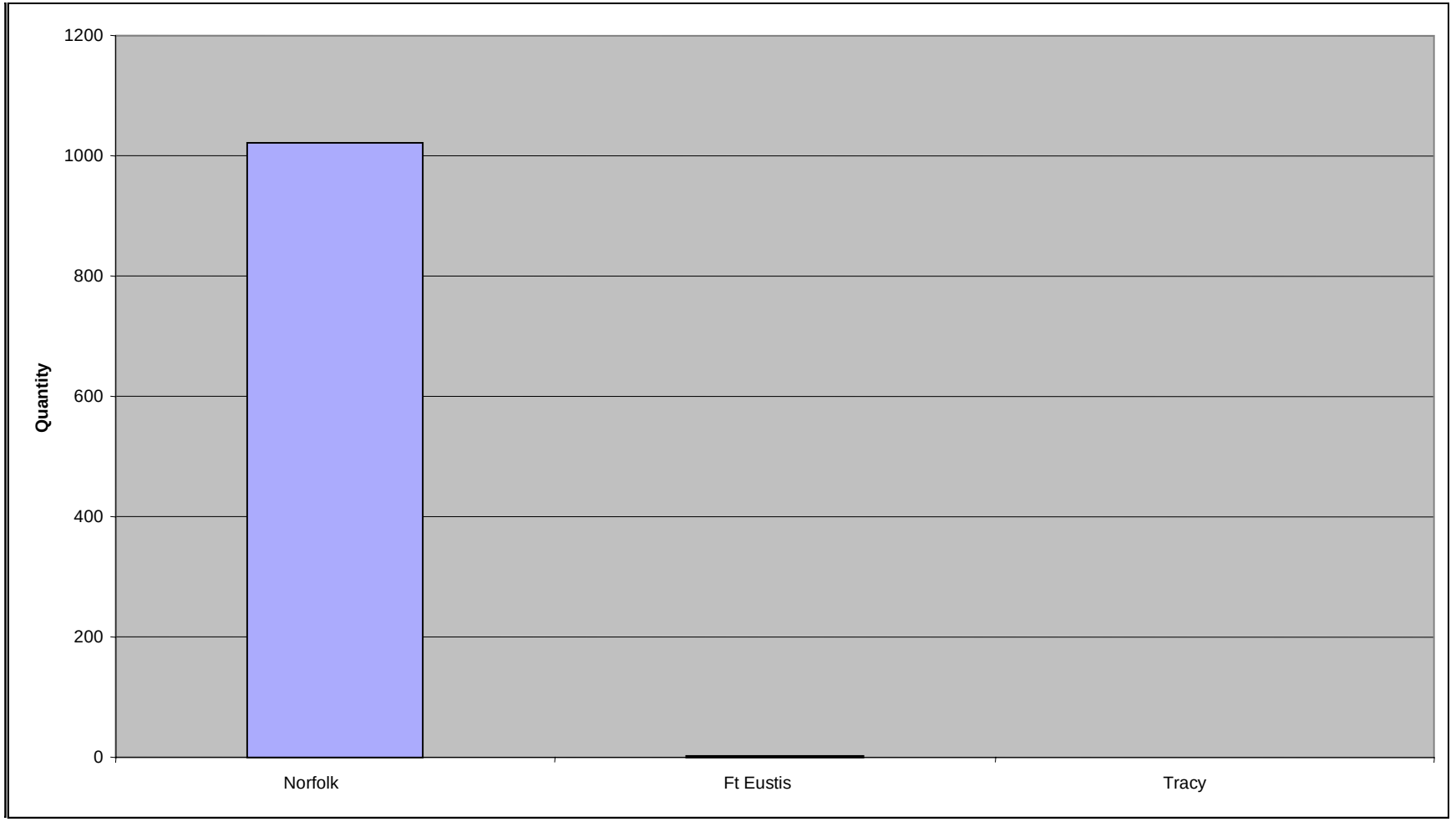

Figure B-24. Quantity of Containers Arriving at the Port of Hampton Roads by Origin

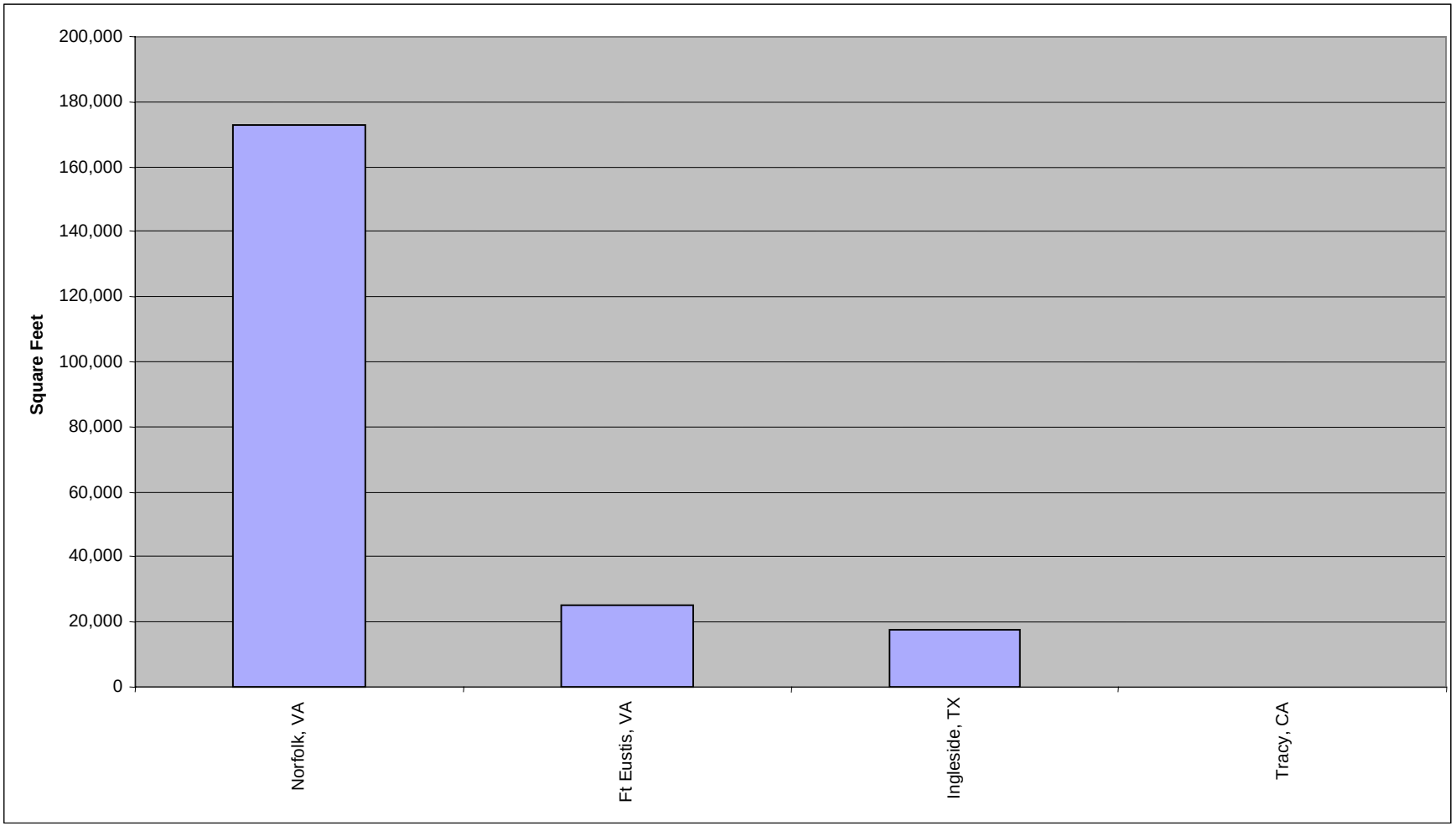

Figure B-25. Square Feet of Cargo Arriving at the Port of Hampton Roads by Origin

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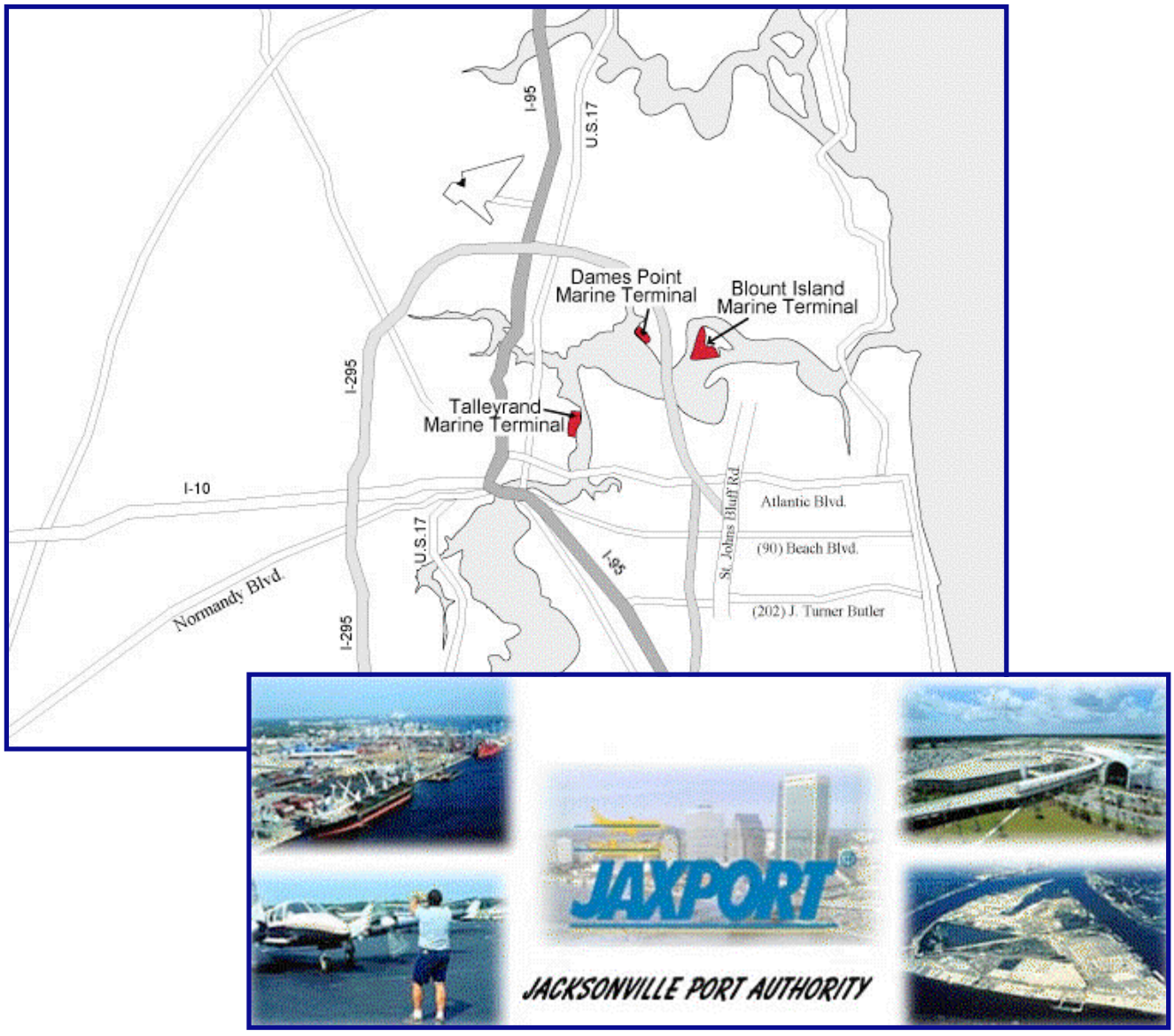
APPENDIX C

PORT OF JACKSONVILLE



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According to the TPFDD, there are three origins sending cargo to the Port of Jacksonville. These origins are shown in Figure C-1. Jacksonville receives a mix of Army, Navy, Air Force, and Marine Corps cargo. Origins in excess of 400 miles send all of their cargo to the Port of Jacksonville by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. All aircraft self-deploy to the port. Figures C-2 through C-5 show the quantity of transports (containers, railcars, and self-deploying aircraft) required to move to the Port of Jacksonville.

Figures C-6 through C-11 illustrate the quantity of items arriving at the port. Figure C-6 is the total quantity of items. Figures C-7 through C-11 break this down into more detail. Figures C-7 and C-8 are the quantity of vehicles arriving at the port. Figure C-7 outlines the wheeled vehicles and Figure C-8 lays out the tracked vehicles. Figure C-9 shows the quantity of aircraft arriving at the port. These are mostly helicopters, and all self move to the port under their own power. Figures C-10 and C-11 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures C-6 through C-11, which lay out the quantity of items arriving, Figure C-12 through C-17 outline the square footage of these categories of cargo.

Figures C-18 through C-23 show how cargo is arriving at the Port of Jacksonville. Figures C-18 through C-20 show the number of cargo items arriving by rail, or self-deploying. Figures C-21 through C-23 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Jacksonville from many origins. Figure C-24 shows visually the amount of cargo coming from each origin.

Figures C-25 and C-27 show the quantity and square footage, respectively, of cargo arriving at the Port of Jacksonville by origin. Figure C-26 is the quantity of containers arriving at the Port of Jacksonville from each origin.

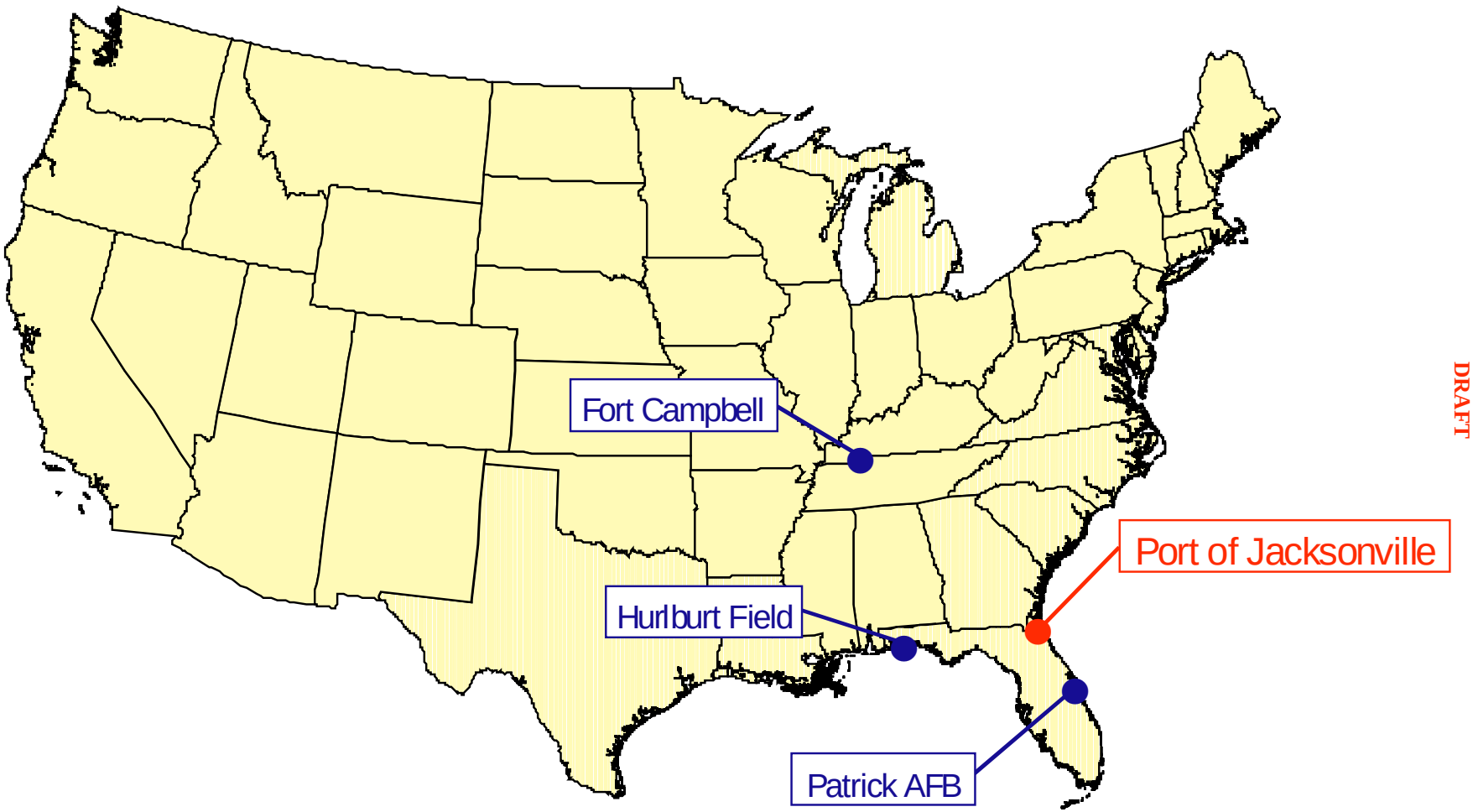

Figure C-1. Cargo Arrives at the Port of Jacksonville from Many Origins

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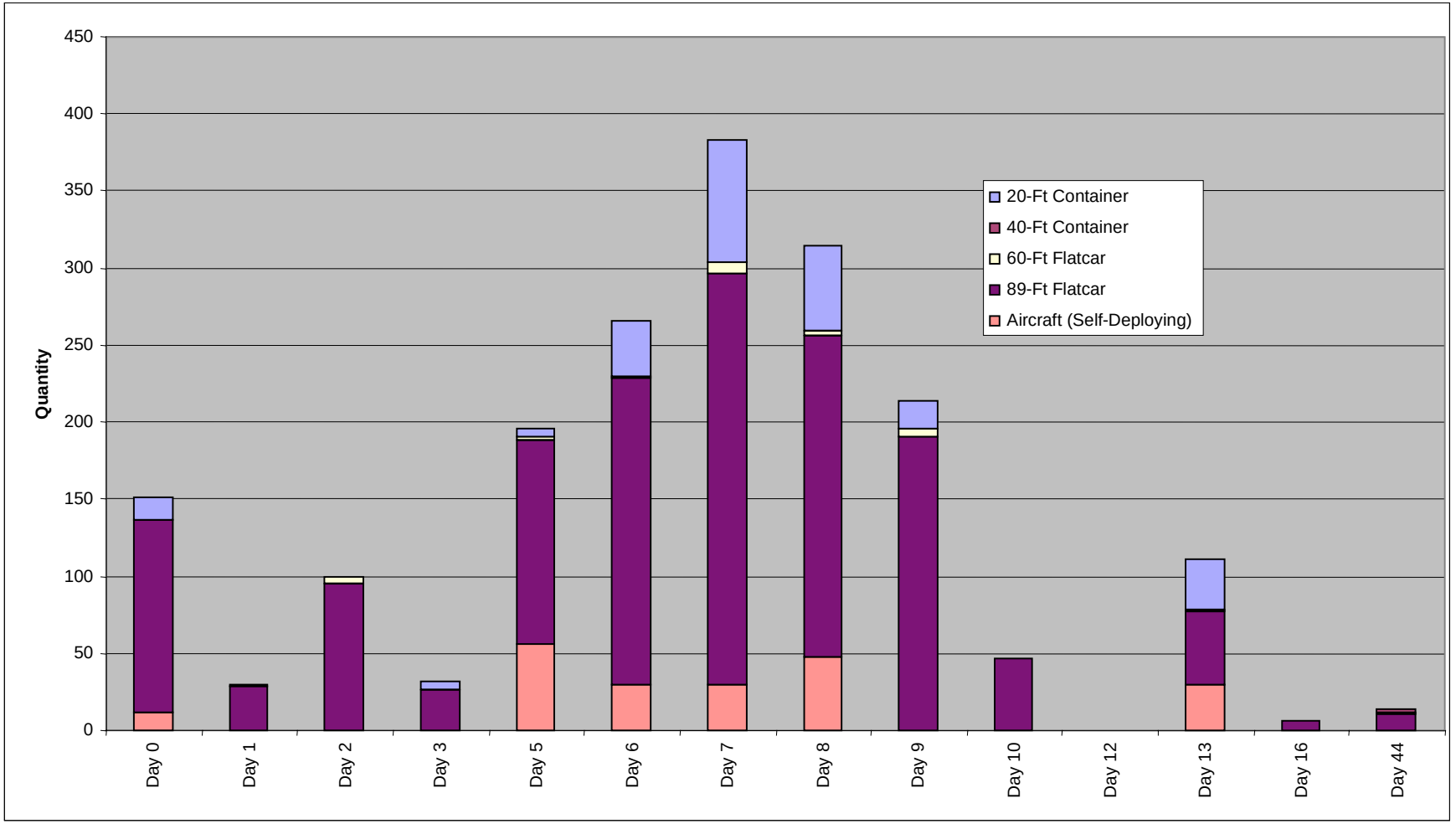

Figure C-2. Total Quantity of Transports Arriving at the Port of Jacksonville

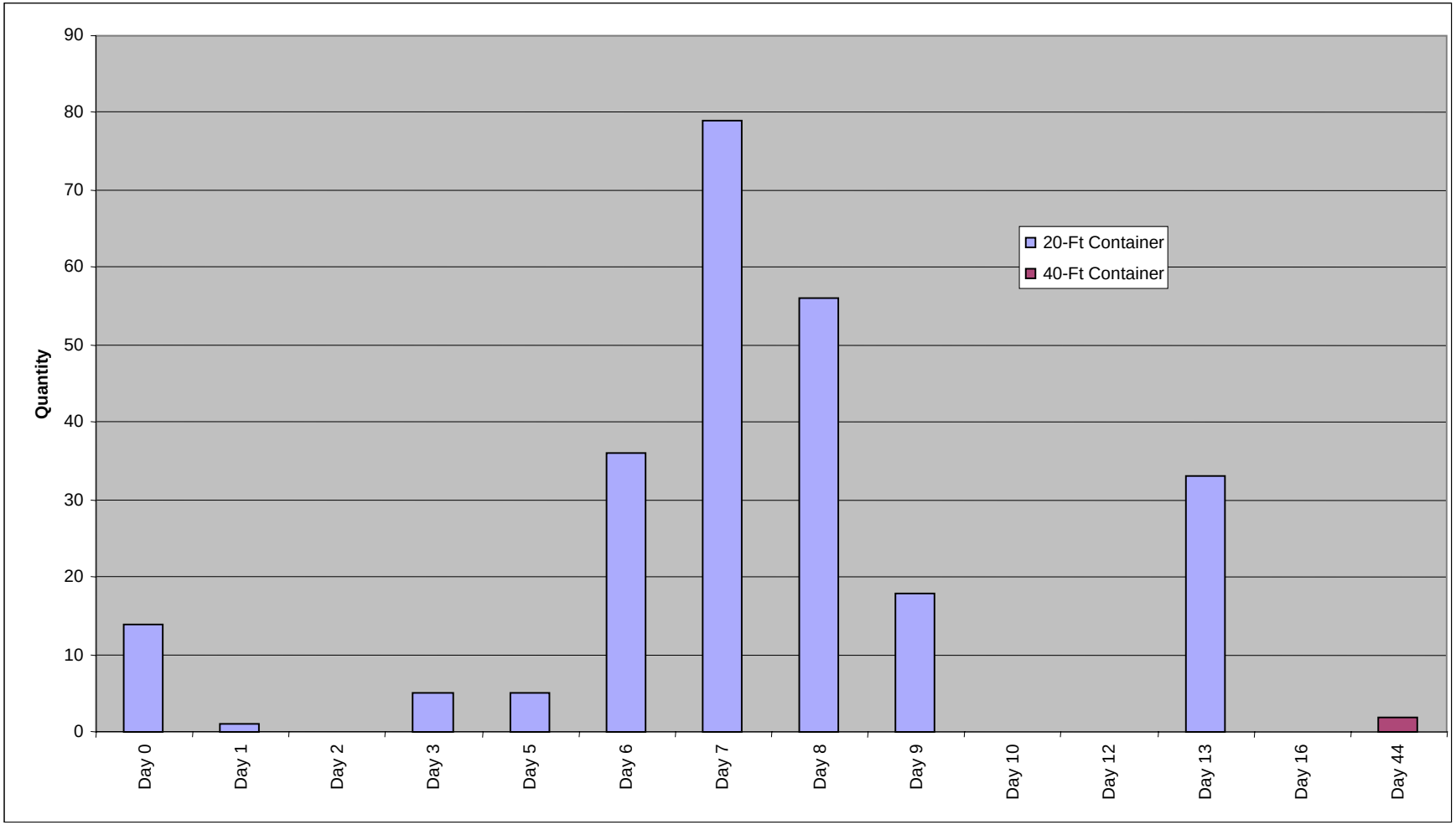

Figure C-3. Quantity of Containers Arriving at the Port of Jacksonville

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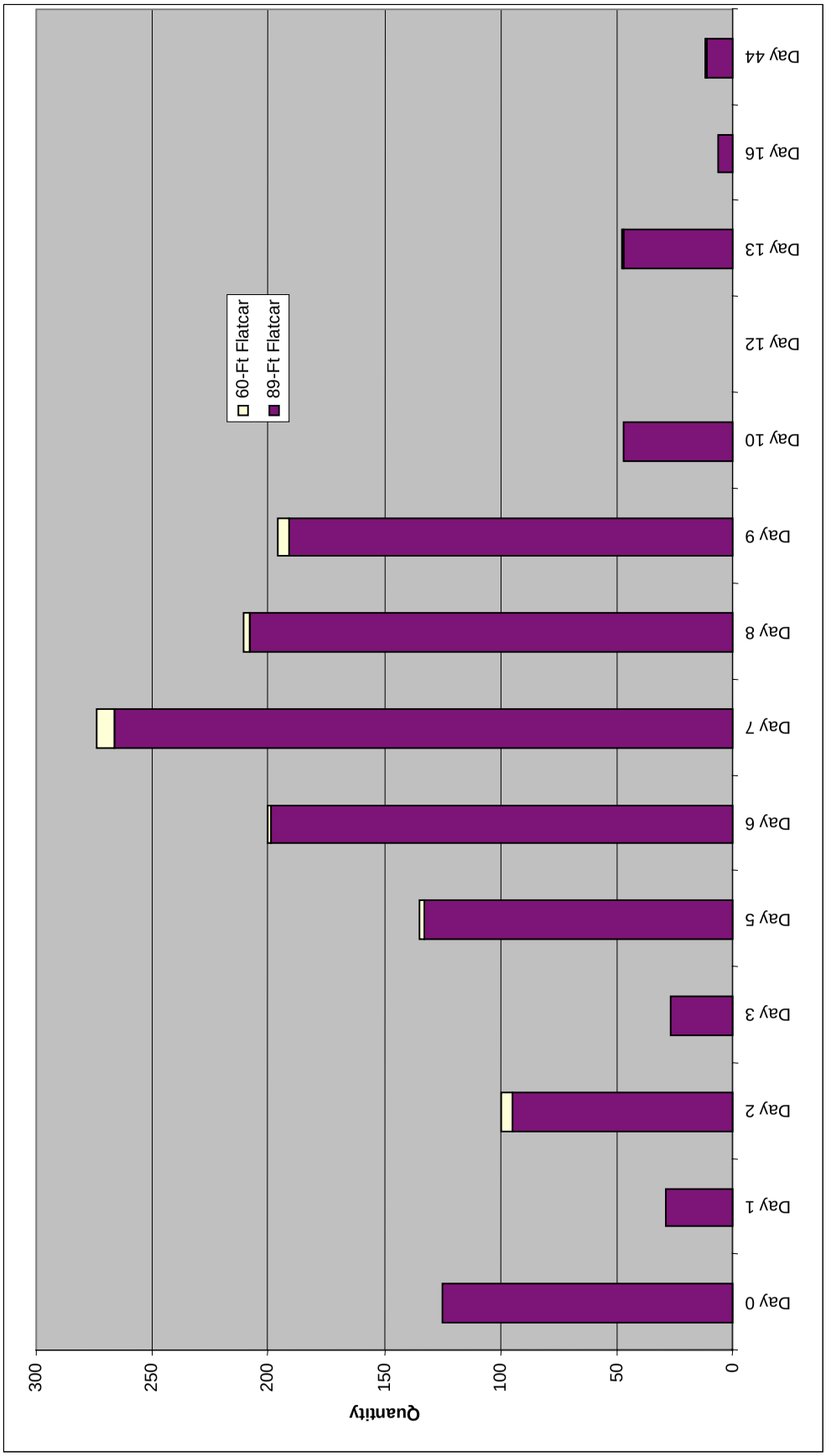

Figure C-4. Quantity of Railcars Arriving at the Port of Jacksonville

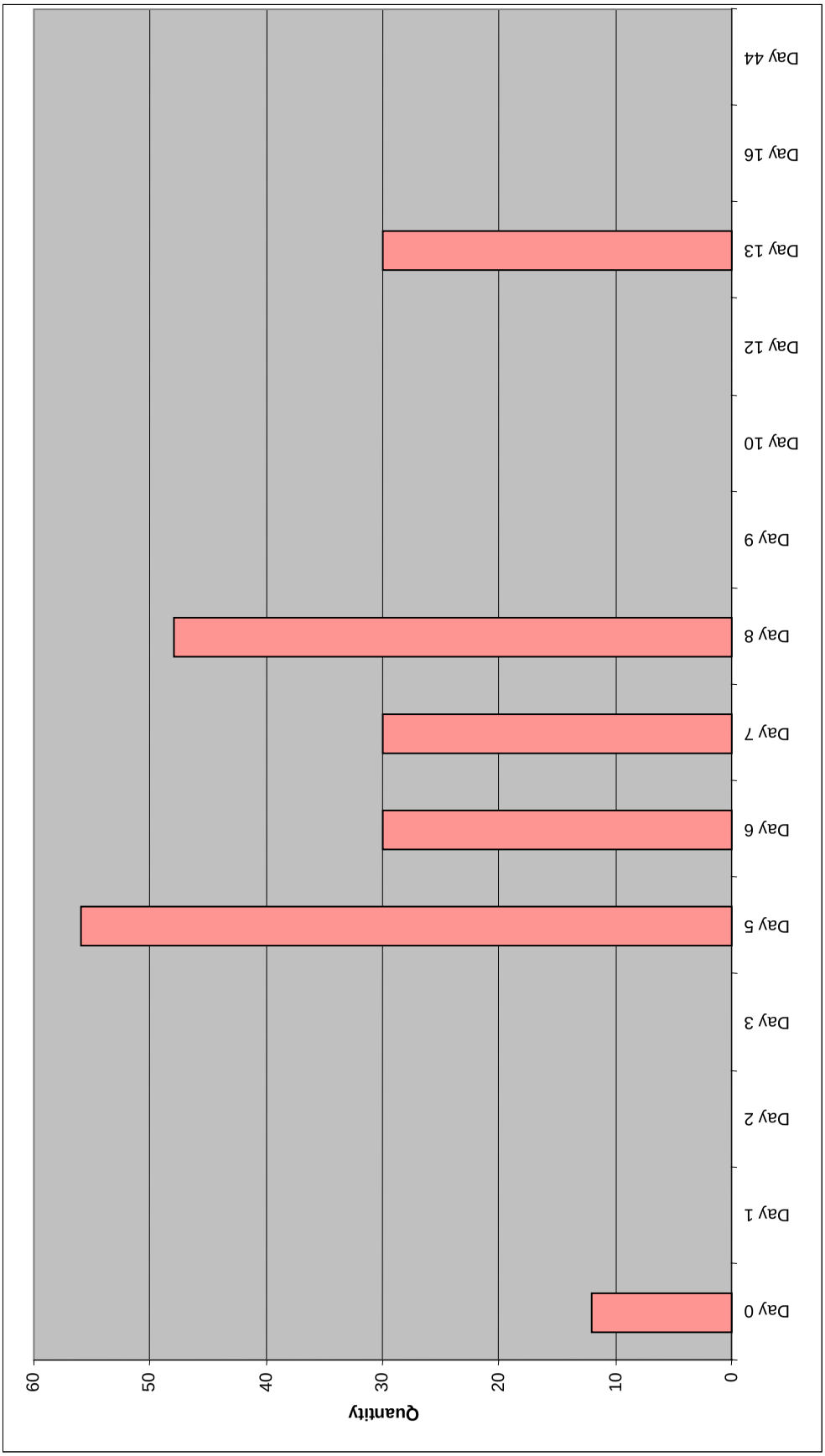

Figure C-5. Quantity of Aircraft Arriving at the Port of Jacksonville

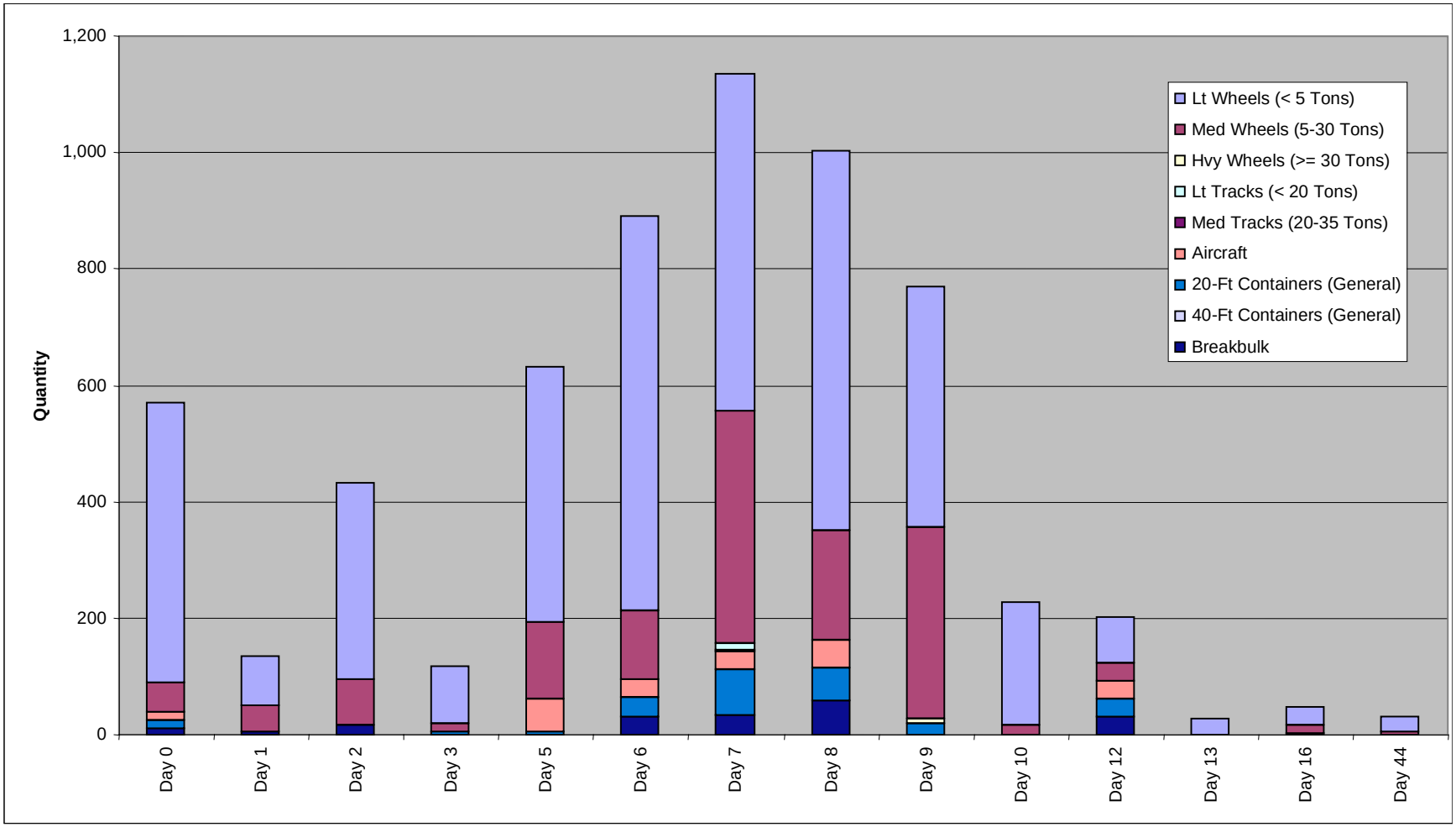

Figure C-6. Total Quantity of Cargo Items Arriving at the Port of Jacksonville

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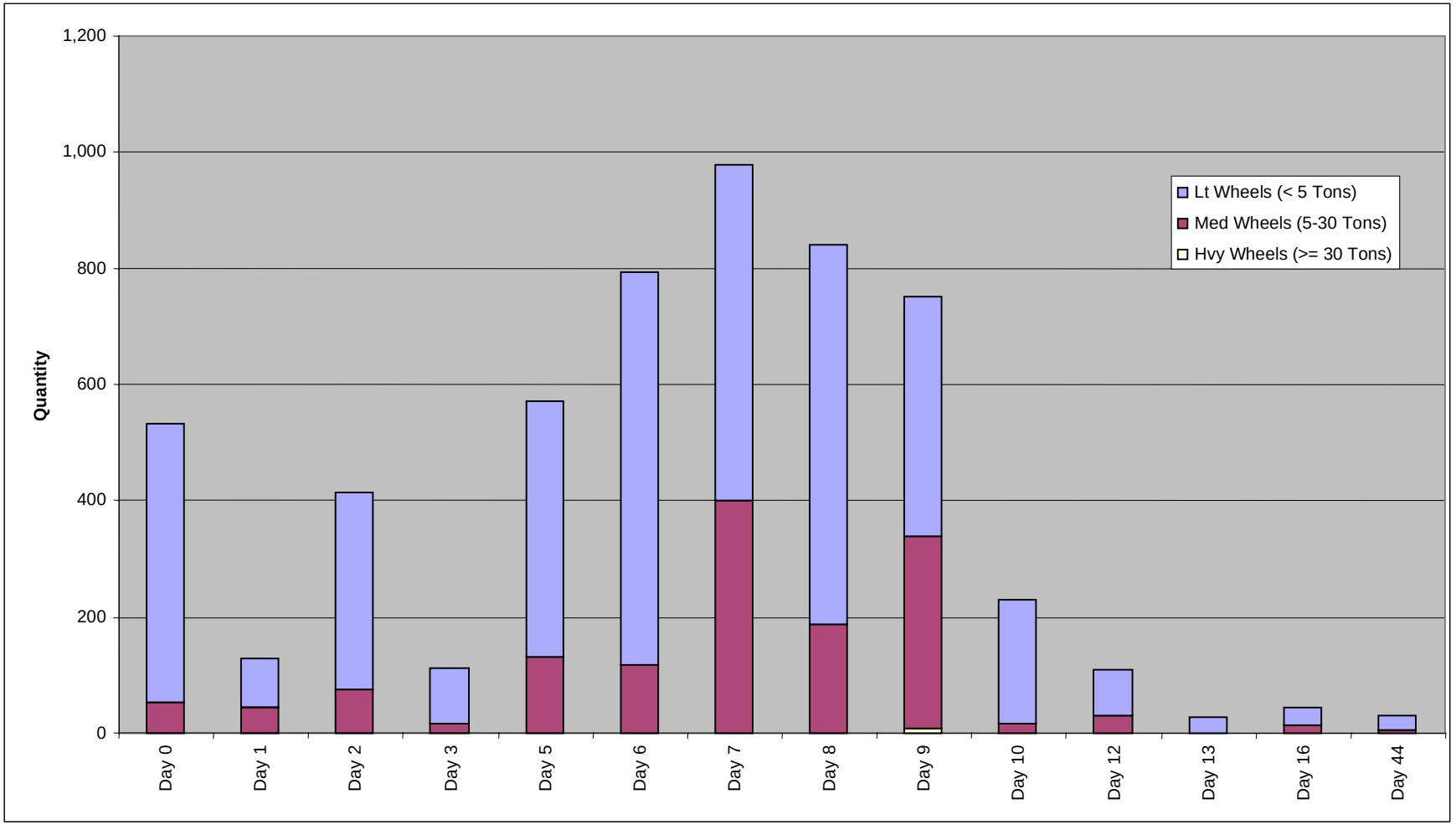

Figure C-7. Quantity of Wheeled Vehicles Arriving at the Port of Jacksonville

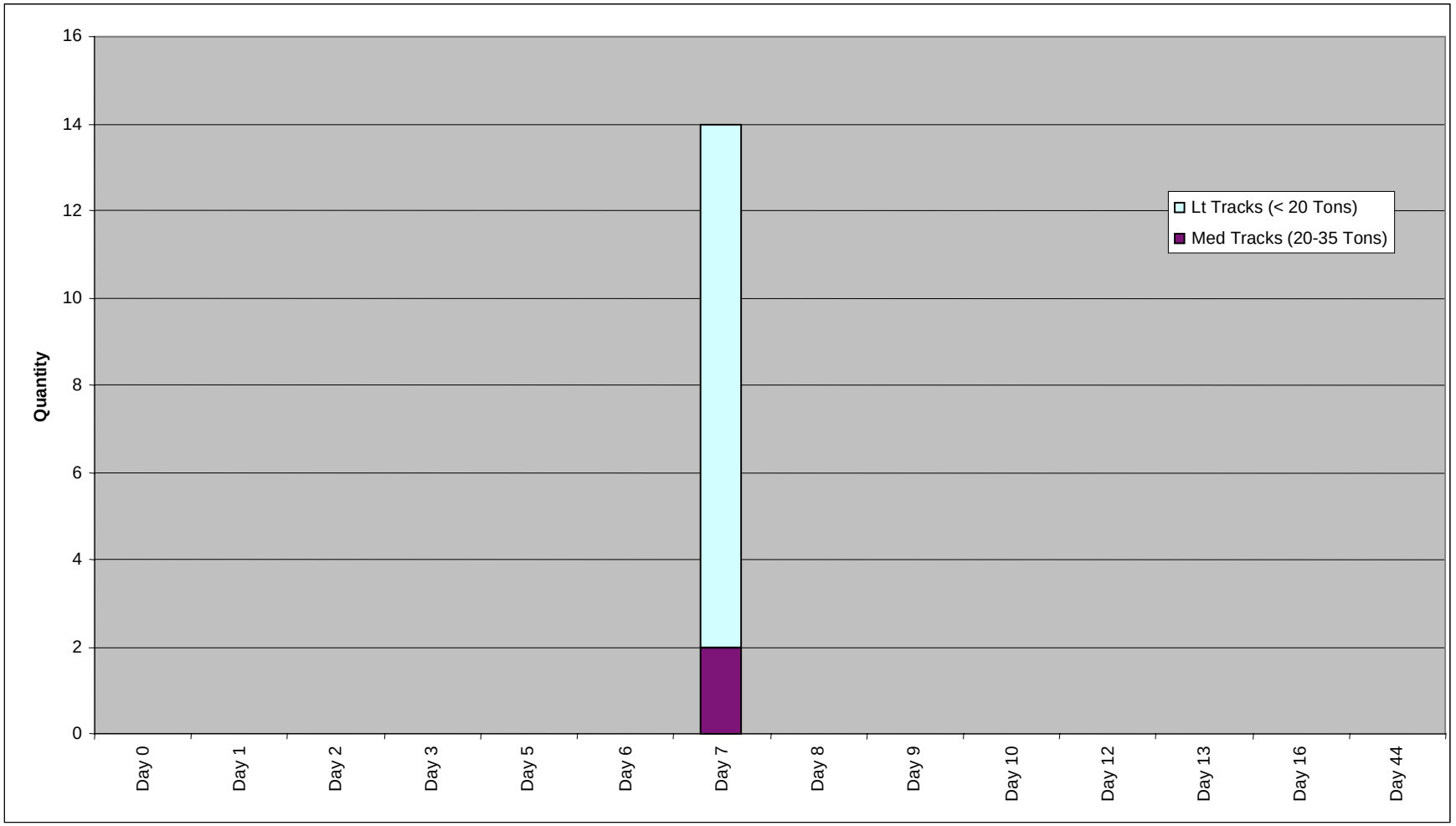

Figure C-8. Quantity of Tracked Vehicles Arriving at the Port of Jacksonville

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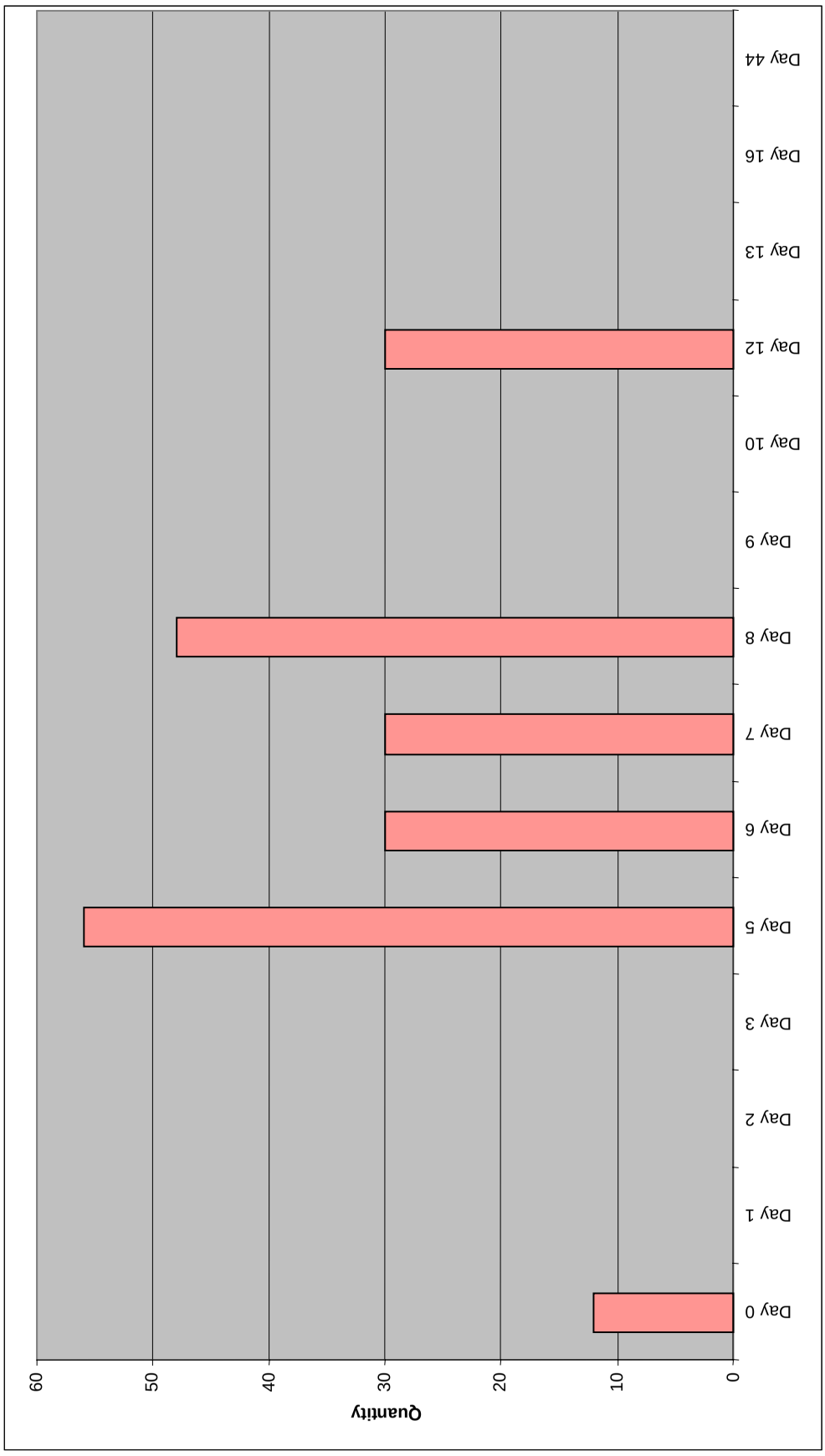

Figure C-9. Quantity of Aircraft Arriving at the Port of Jacksonville

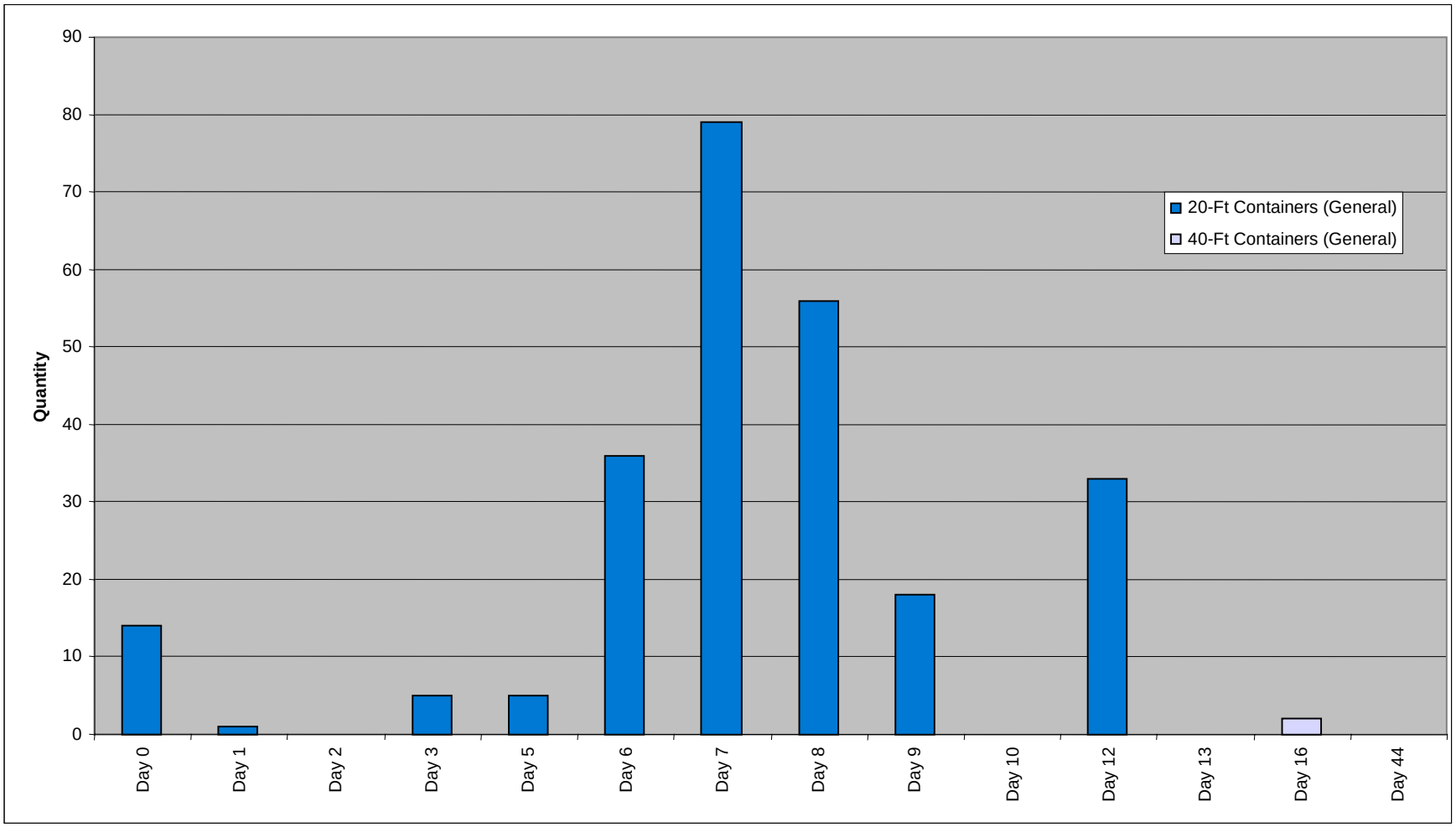

Figure C-10. Quantity of Containers Arriving at the Port of Jacksonville

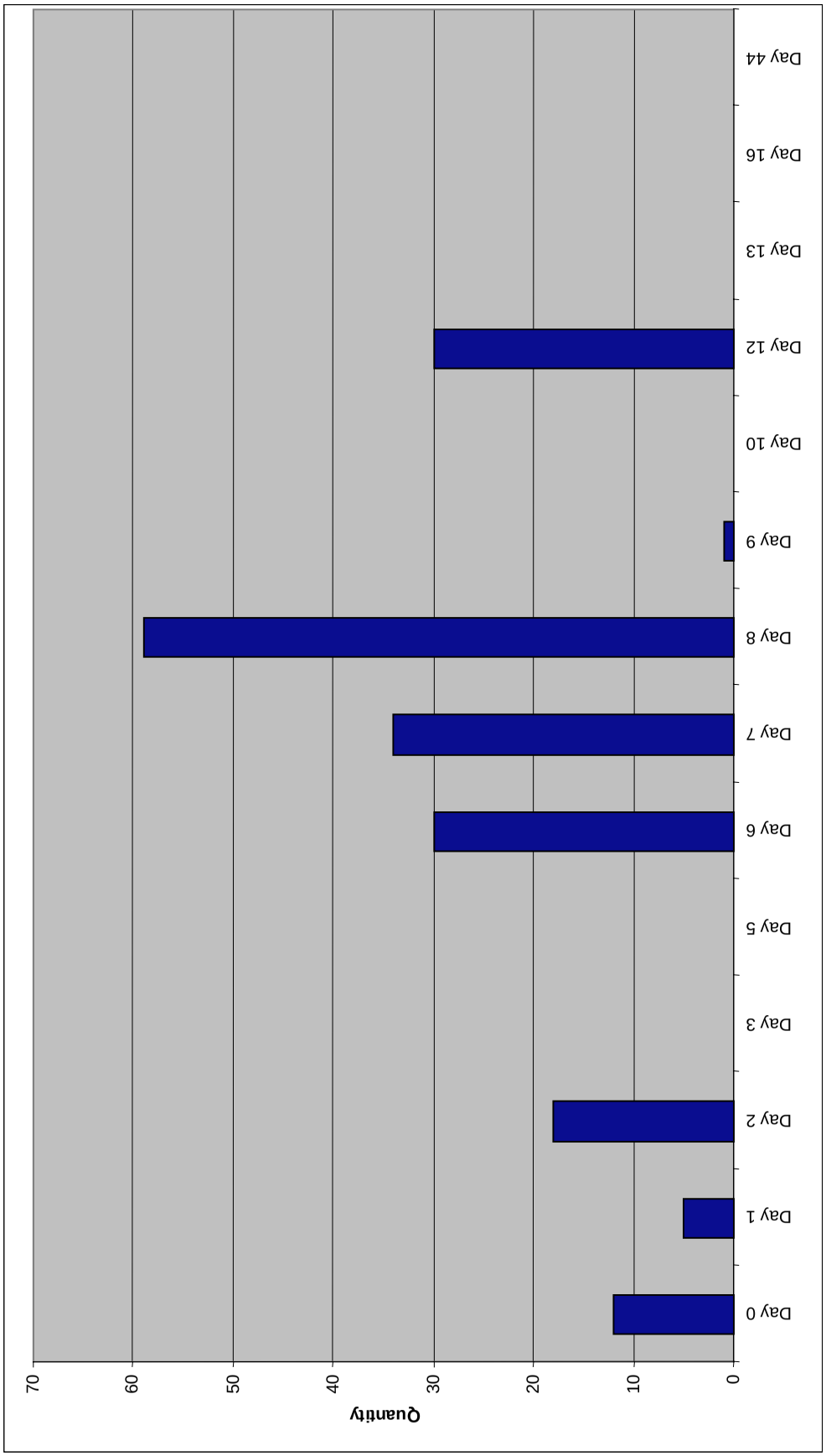

Figure C-11. Quantity of Breakbulk Cargo Items Arriving at the Port of Jacksonville

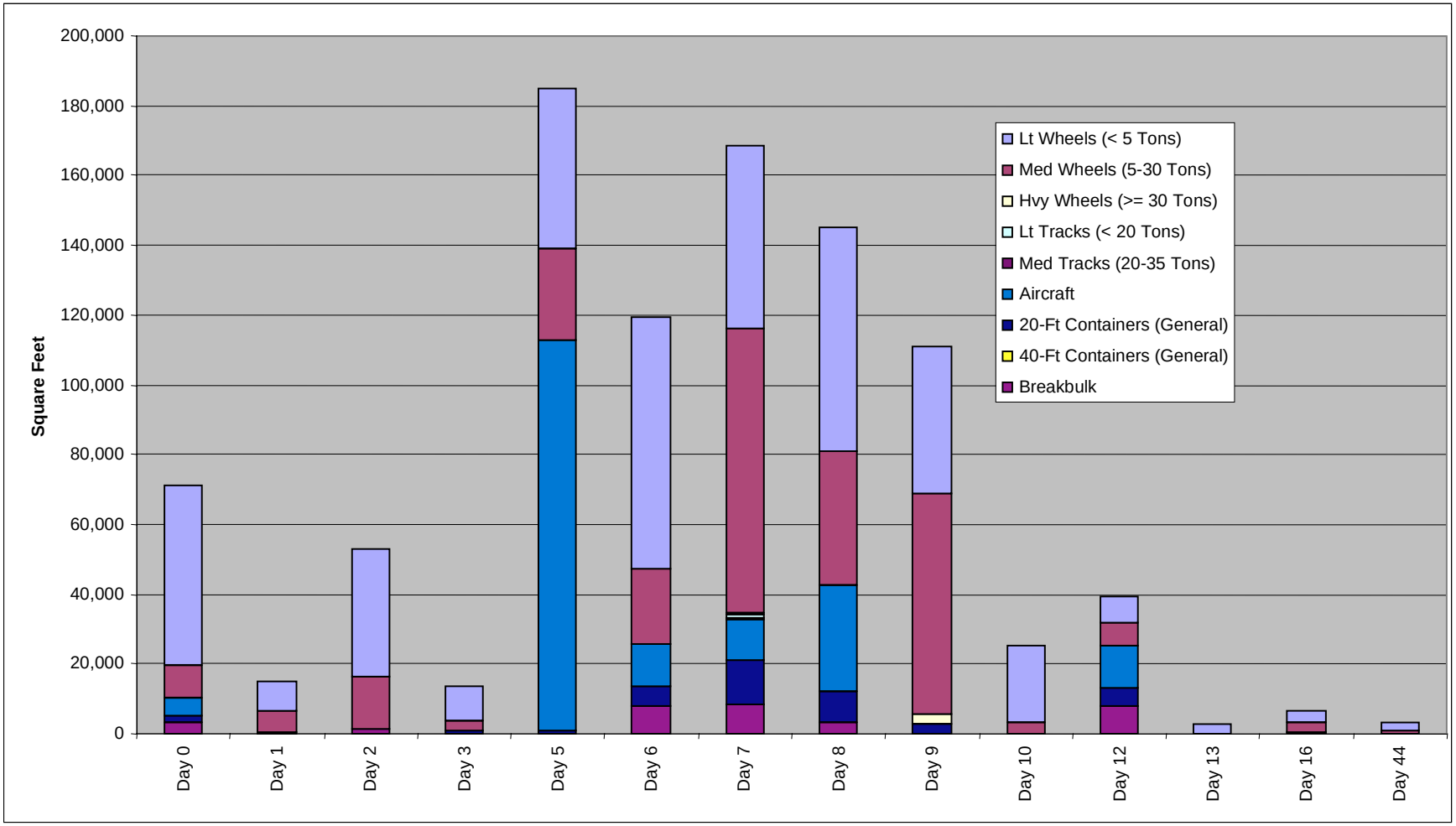

Figure C-12. Total Square Feet of Cargo Arriving at the Port of Jacksonville

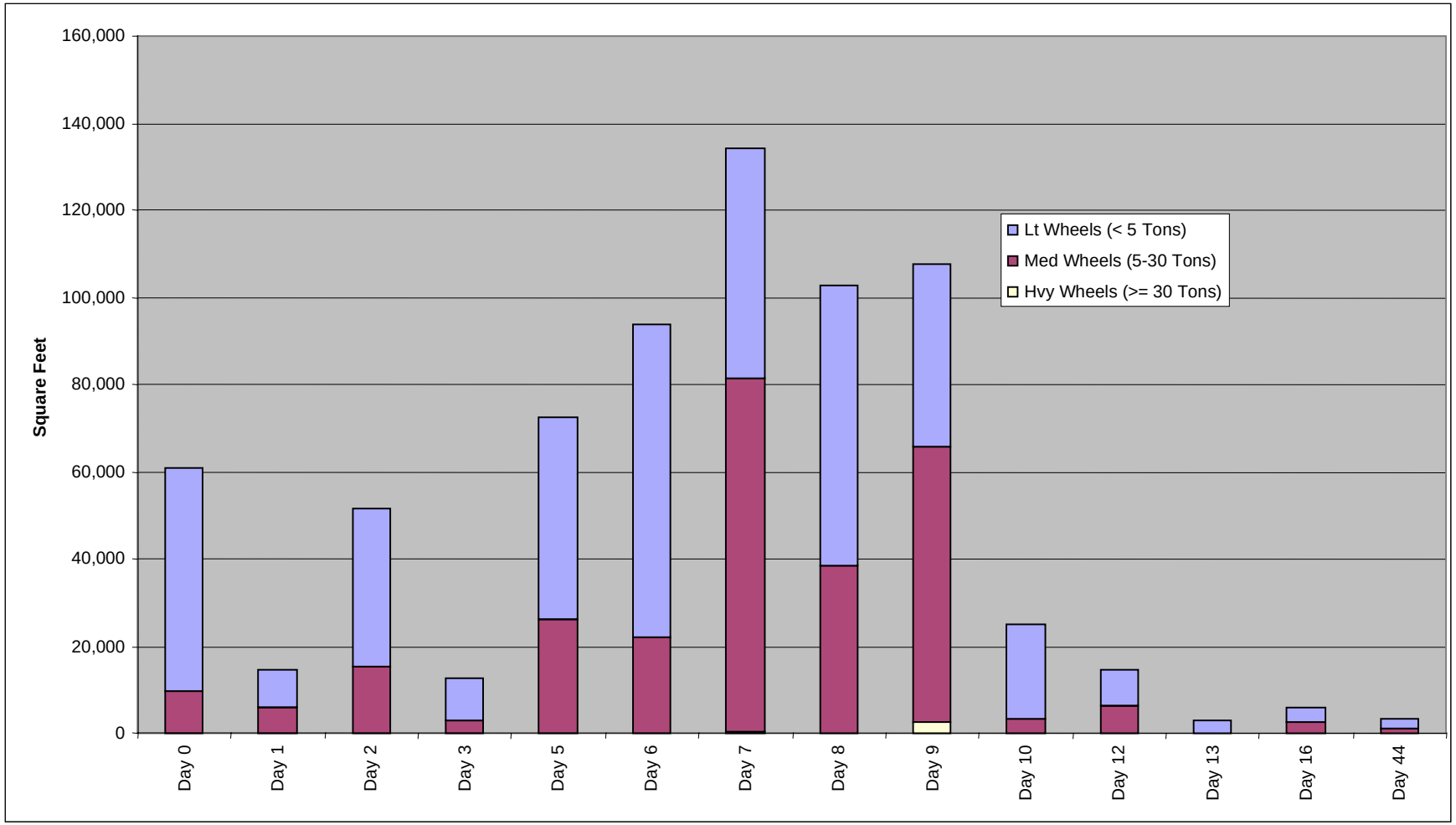

Figure C-13. Square Feet of Wheeled Vehicles Arriving at the Port of Jacksonville

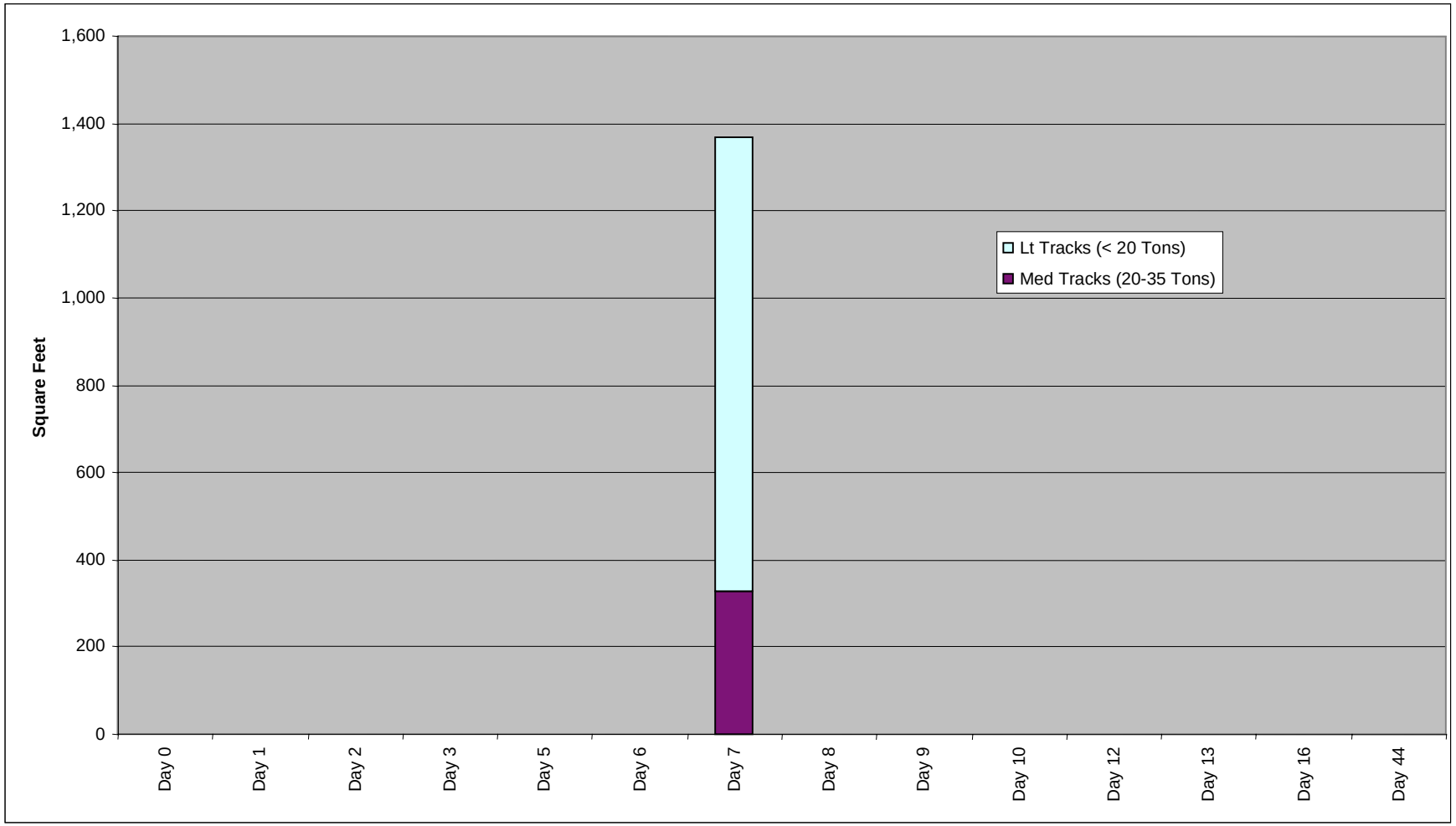

Figure C-14. Square Feet of Tracked Vehicles Arriving at the Port of Jacksonville

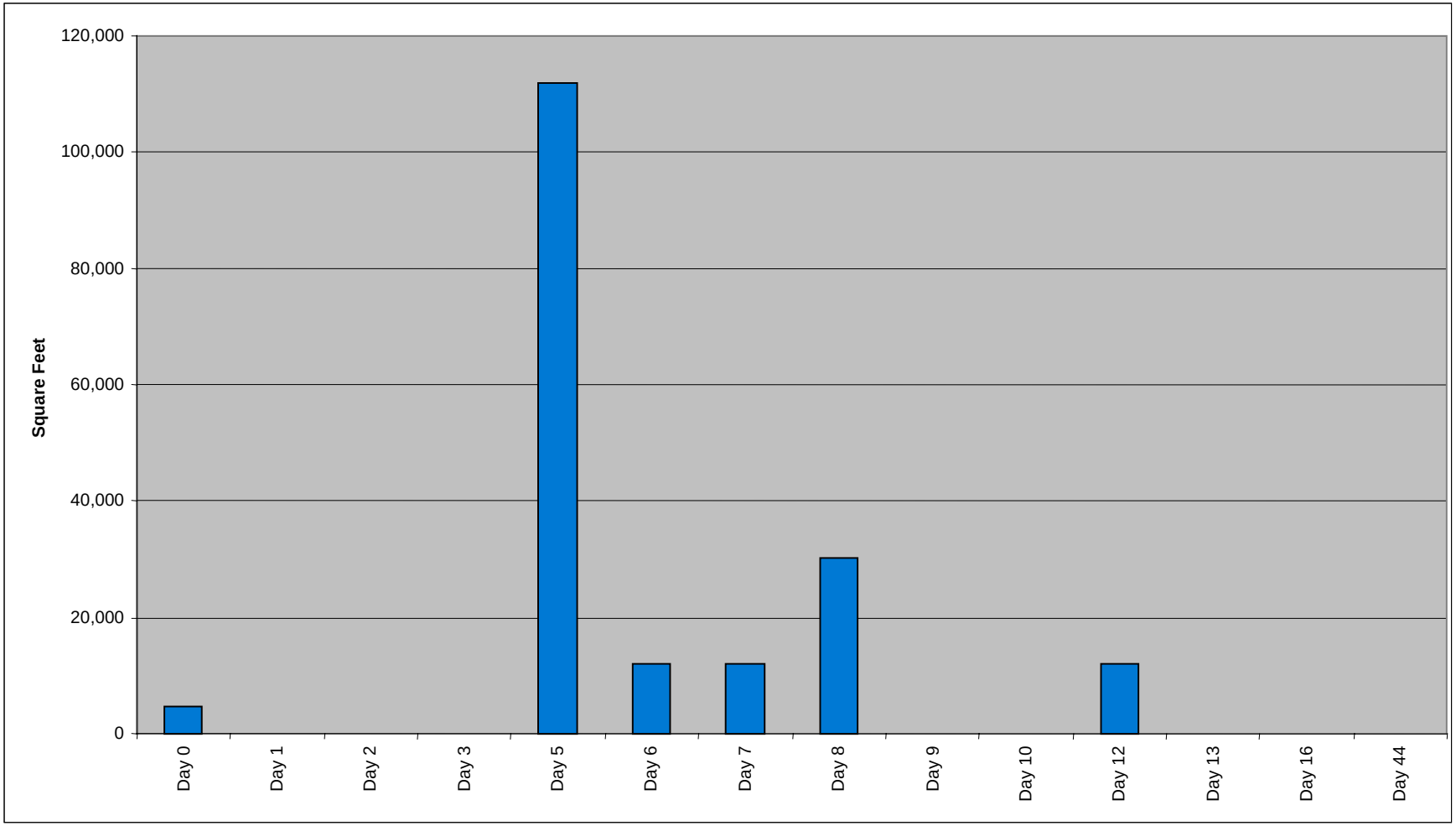

Figure C-15. Square Feet of Aircraft Arriving at the Port of Jacksonville

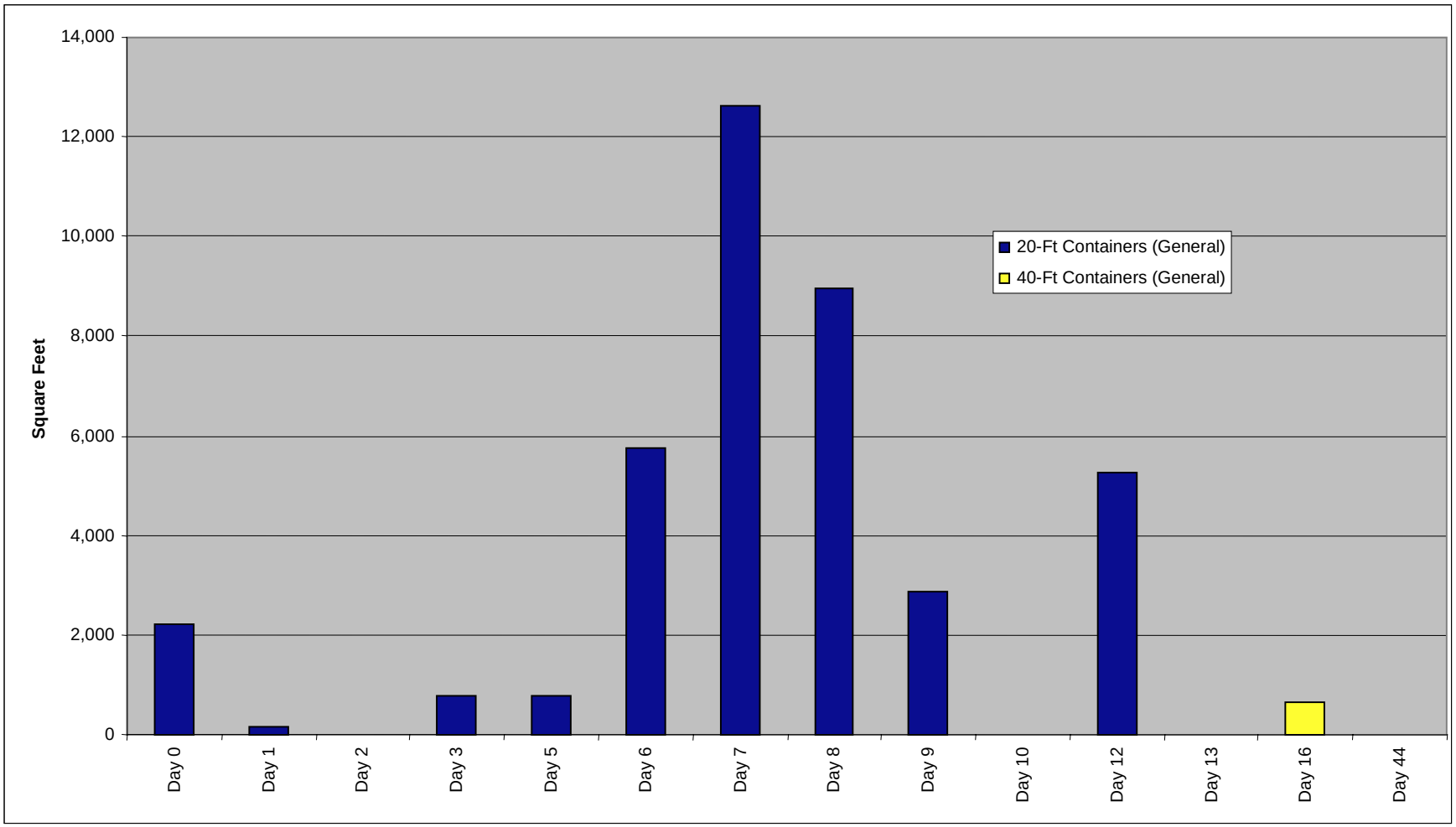

Figure C-16. Square Feet of Containers Arriving at the Port of Jacksonville

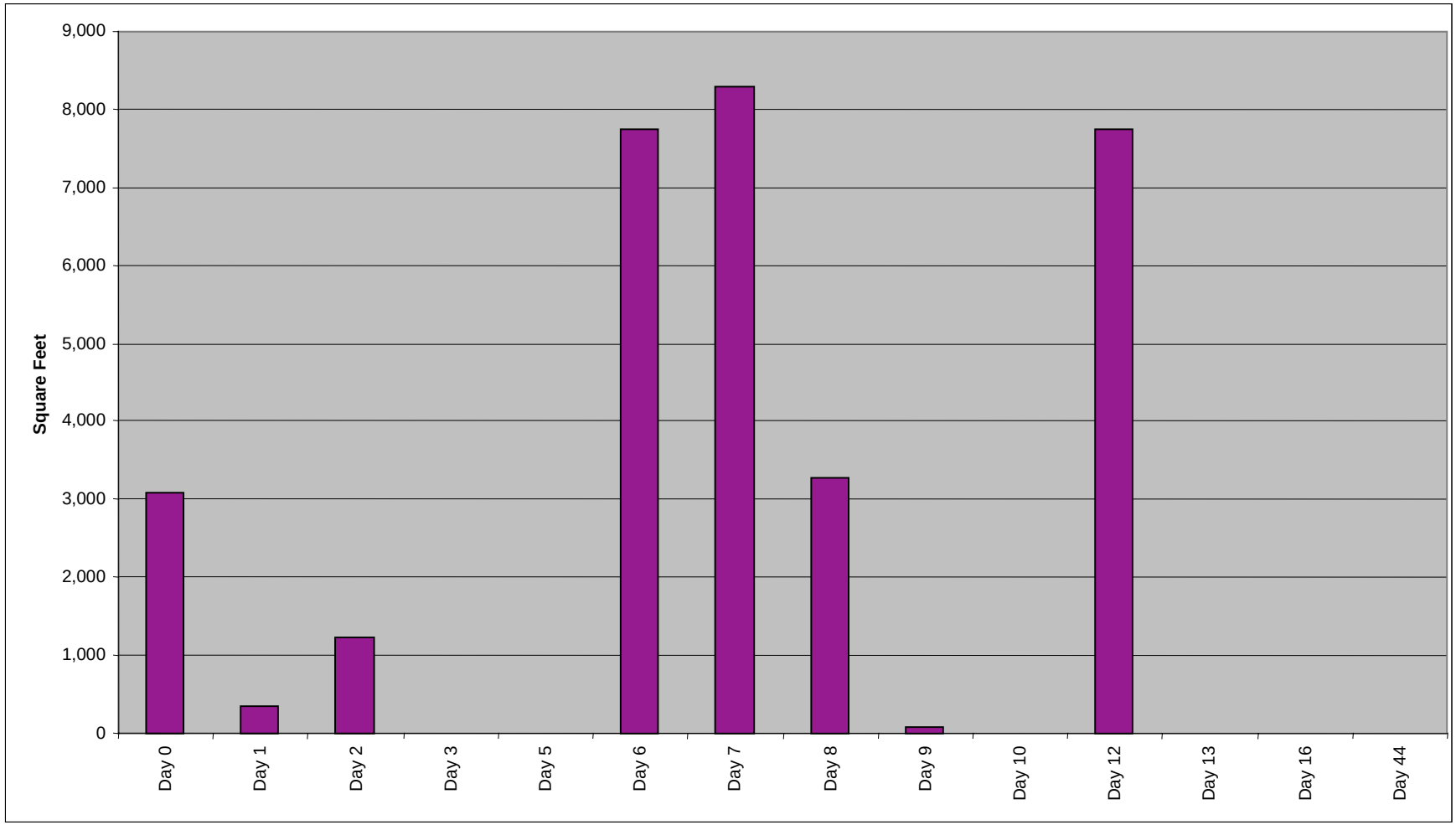

Figure C-17. Square Feet of Breakbulk Cargo Items Arriving at the Port of Jacksonville

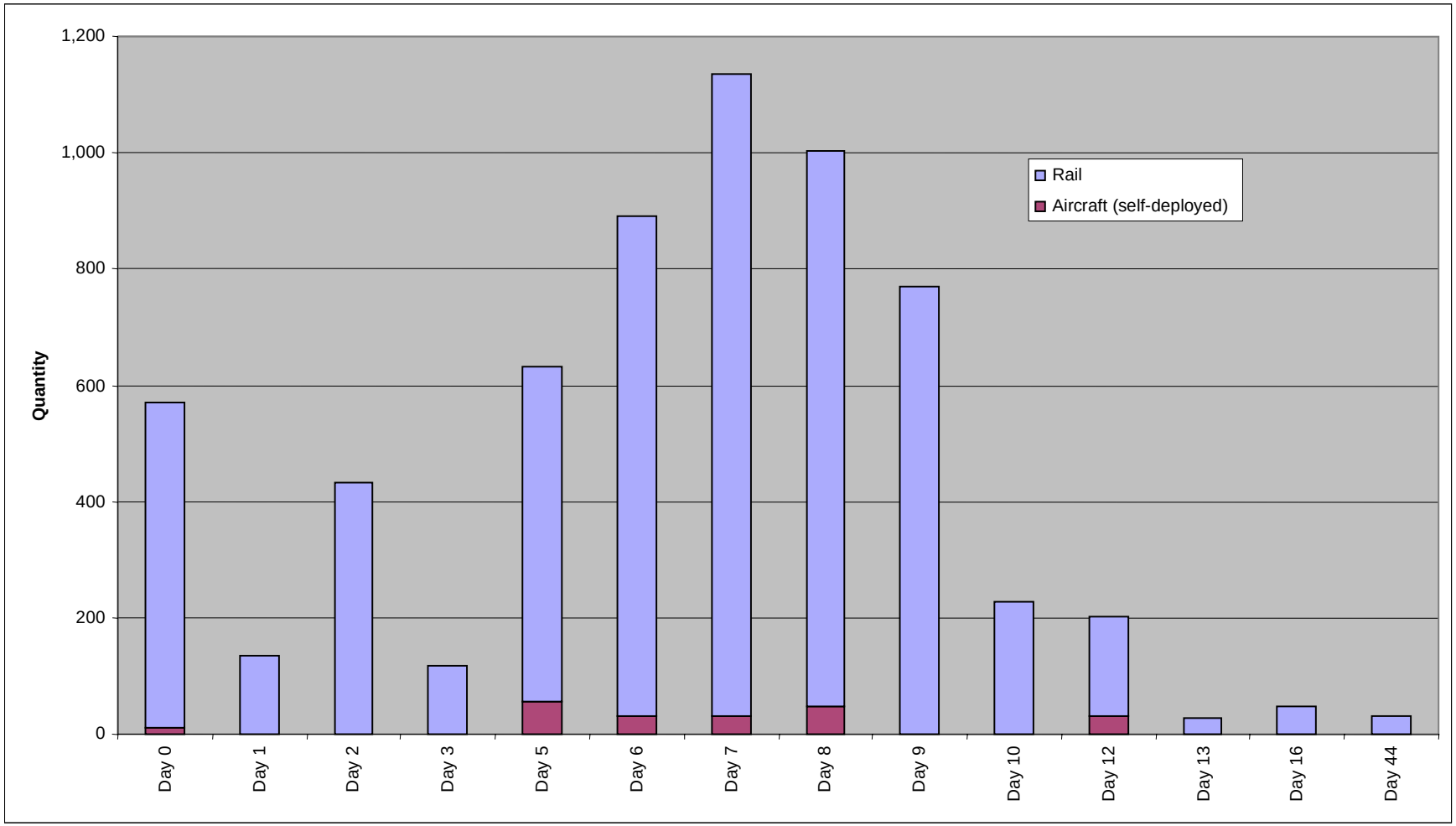

Figure C-18. Quantity of Cargo Items Arriving by Mode to the Port of Jacksonville

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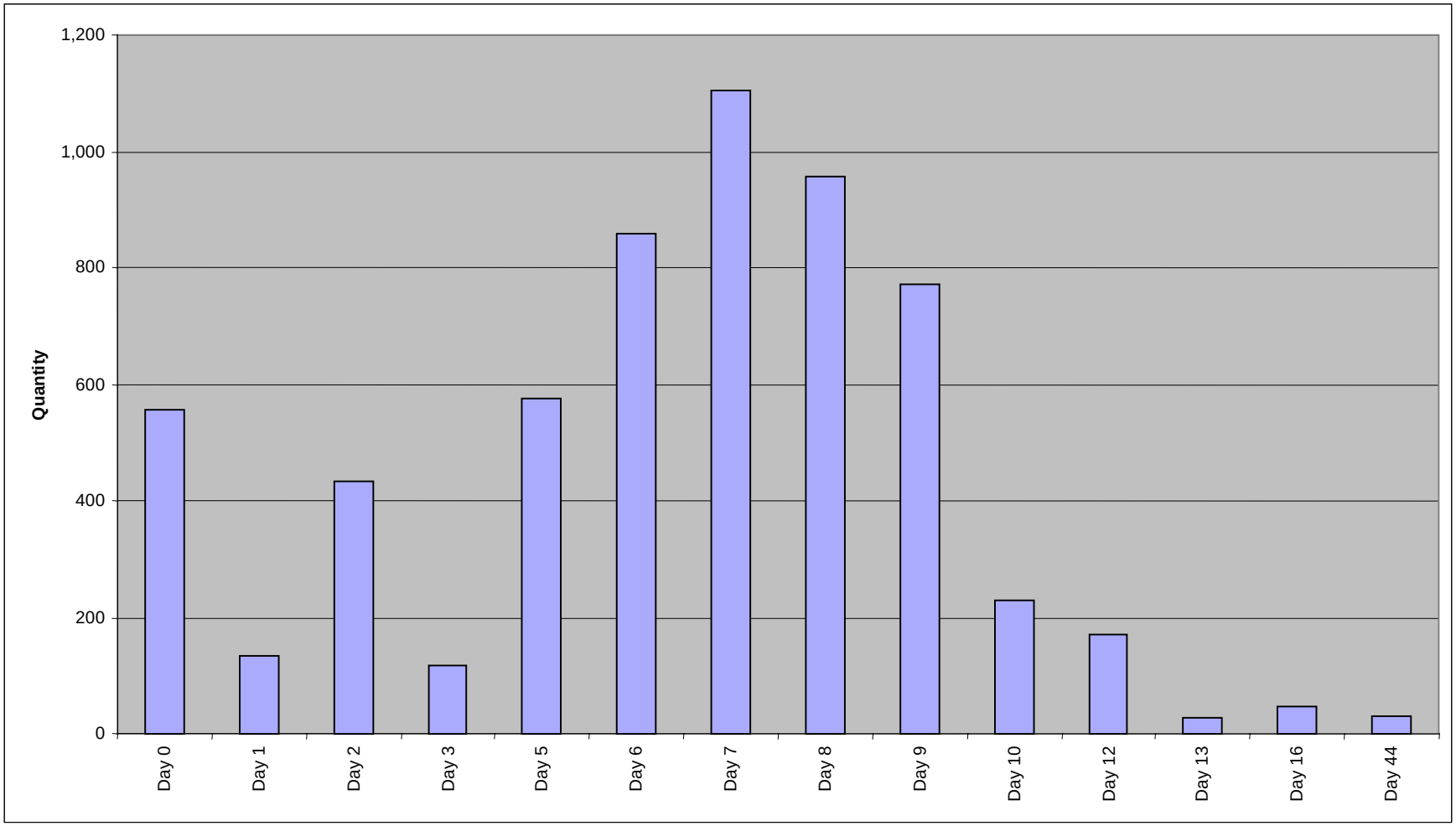

Figure C-19. Quantity of Items Arriving by Rail at the Port of Jacksonville

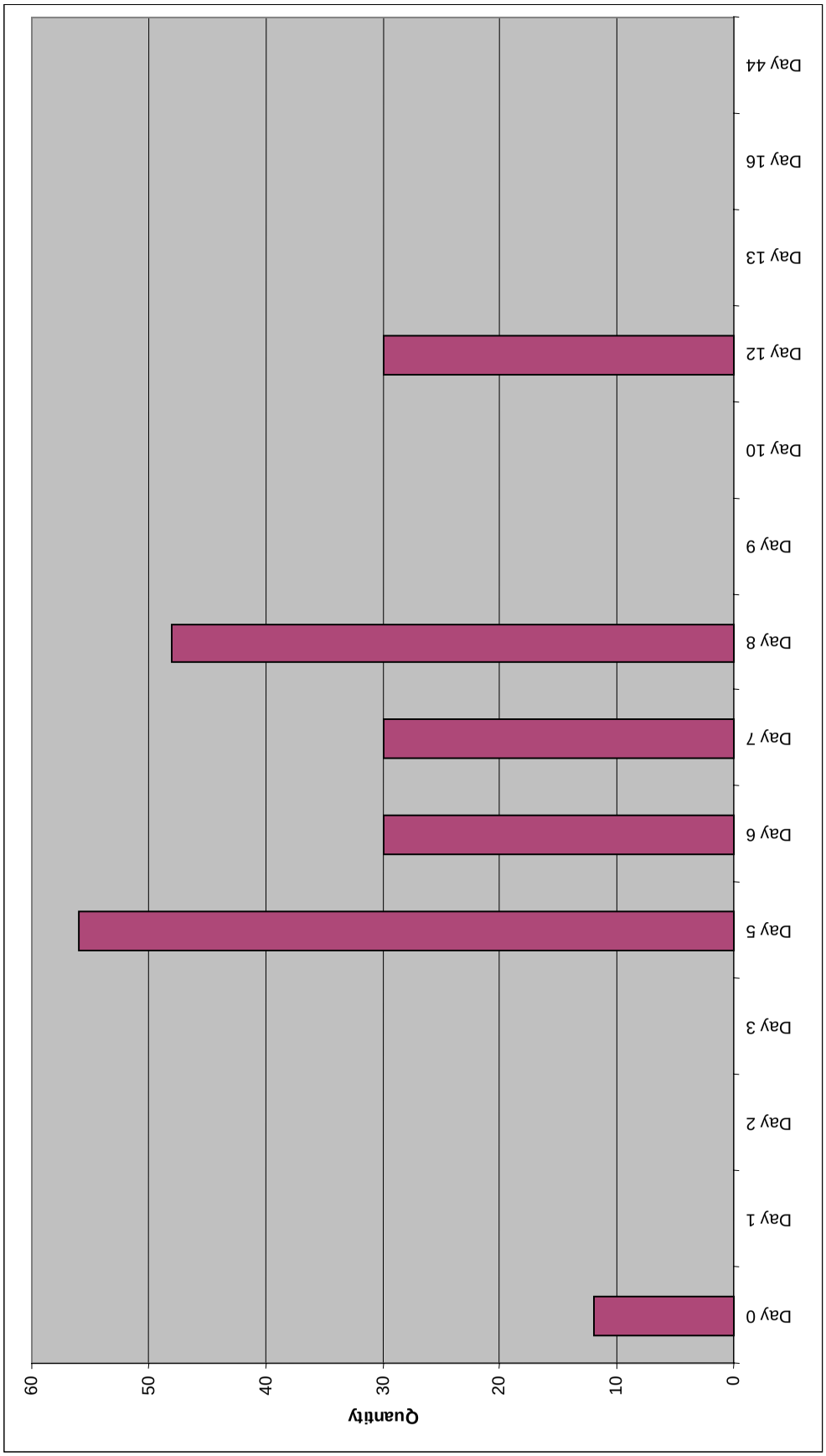

Figure C-20. Quantity of Aircraft Self-Deploying to the Port of Jacksonville

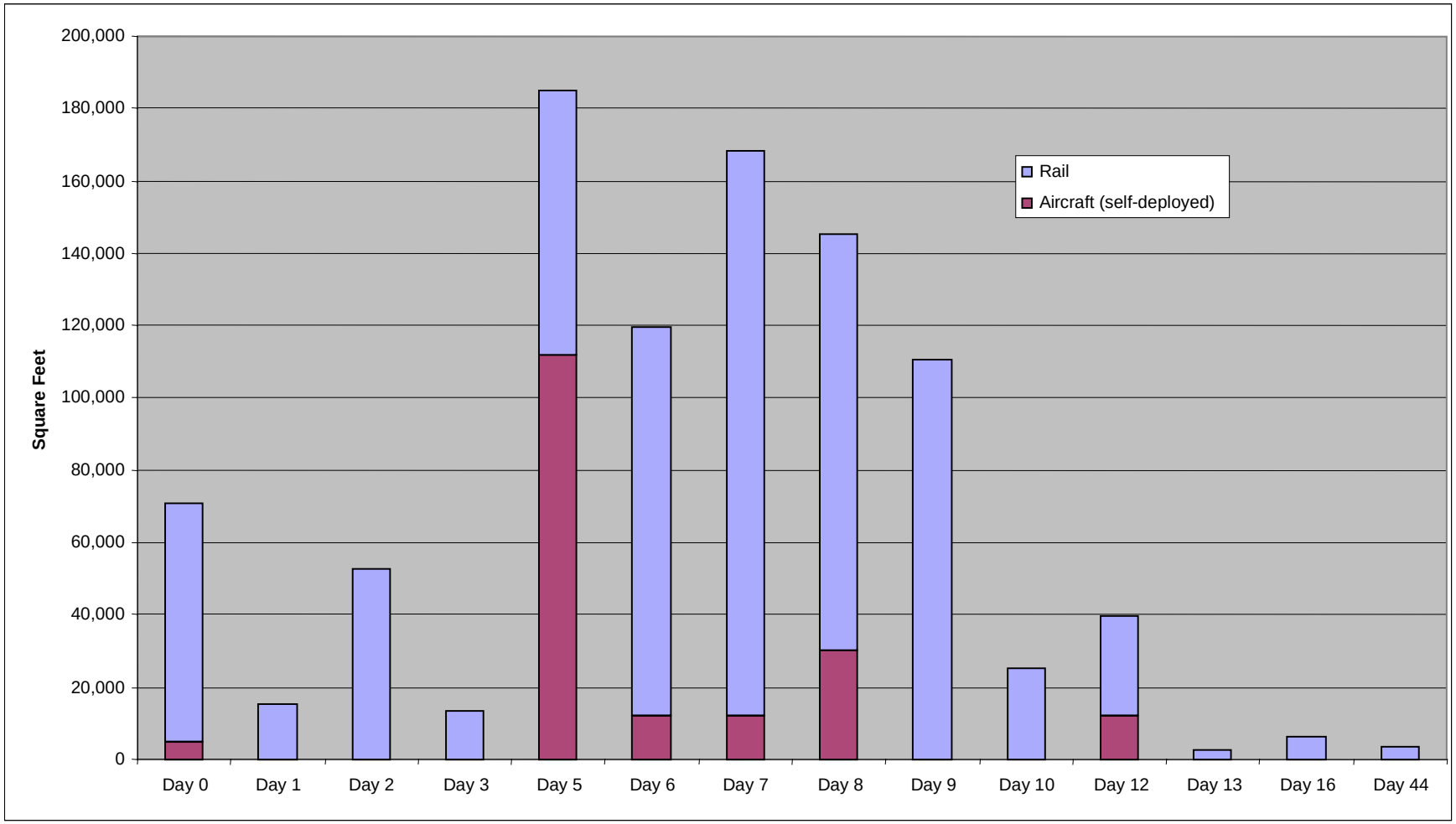

Figure C-21. Square Feet of Cargo Items Arriving by Mode to the Port of Jacksonville

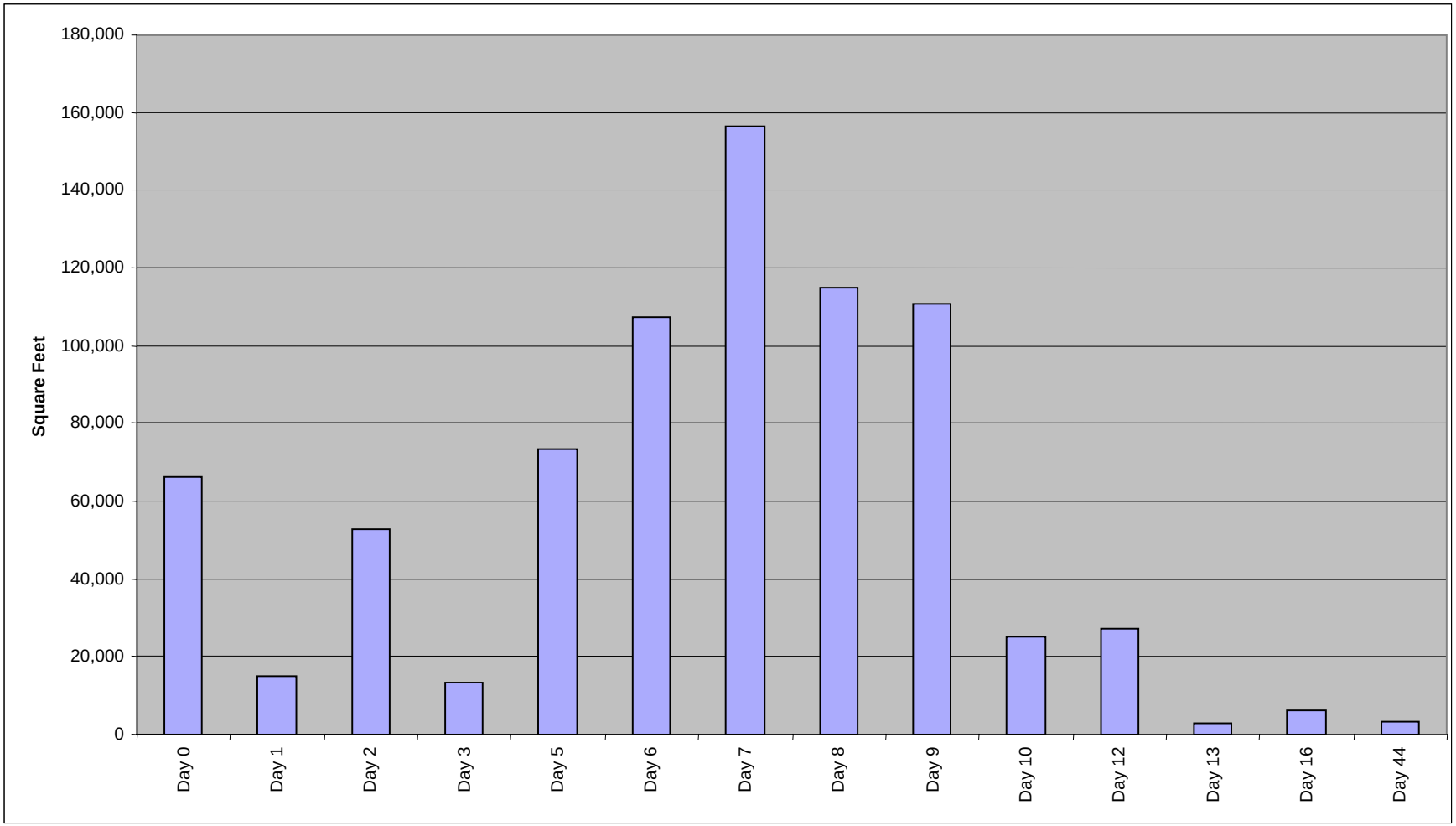

Figure C-22. Square Feet of Cargo Items Arriving by Rail to the Port of Jacksonville

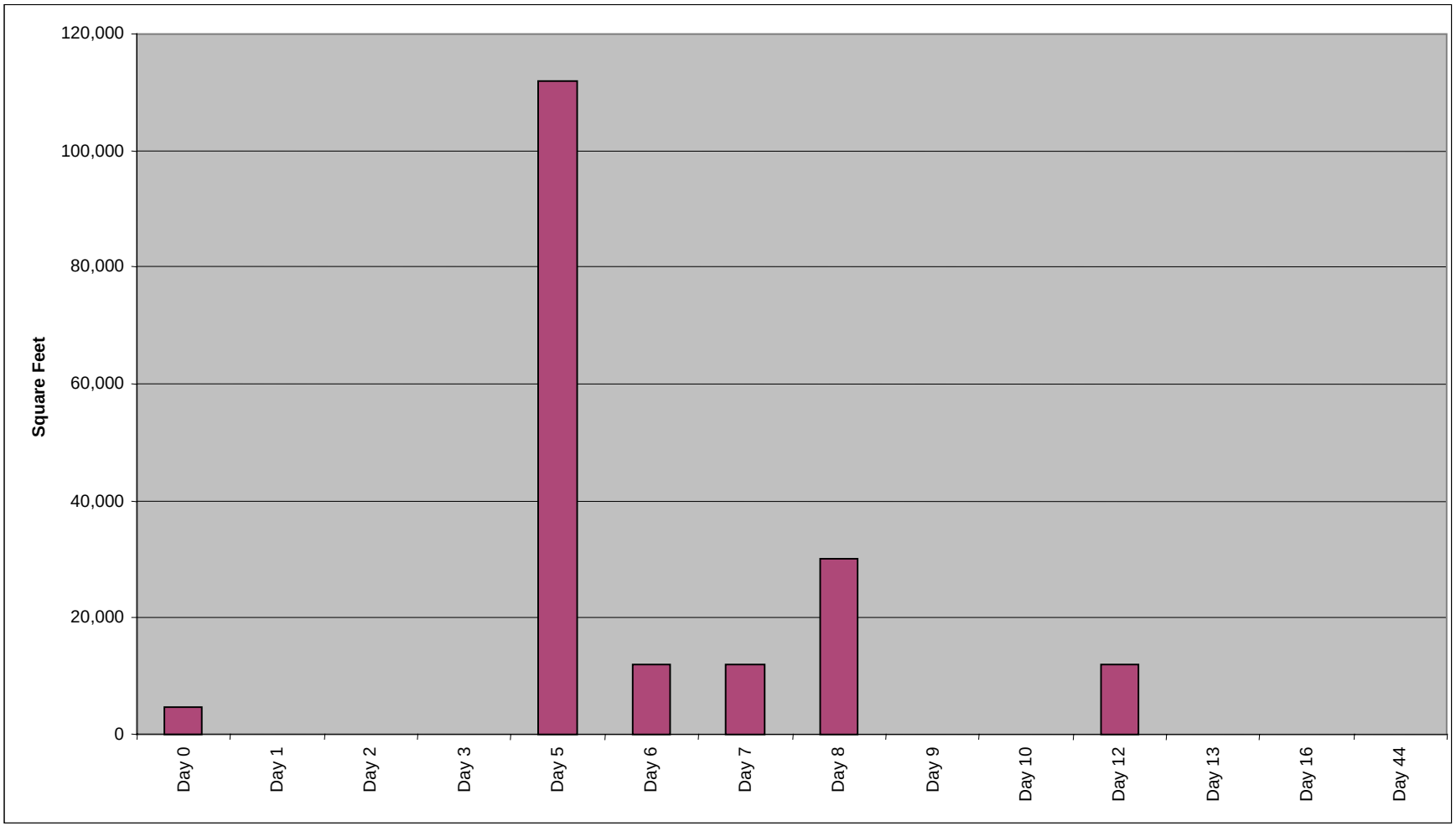

Figure C-23. Square Feet of Aircraft Self-Deploying to the Port of Jacksonville

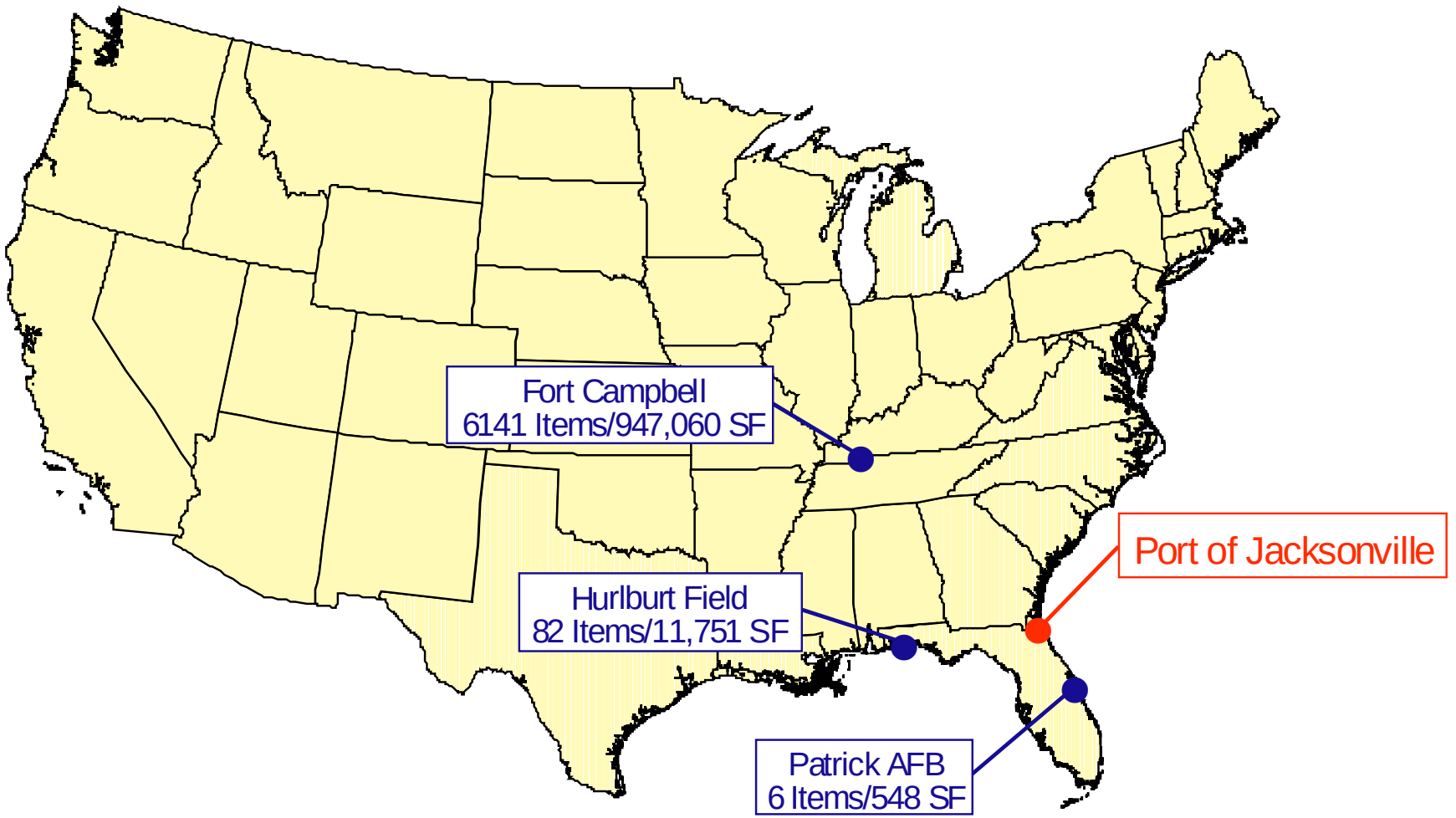

Figure C-24. Amount of Cargo Arriving at the Port of Jacksonville by Origin

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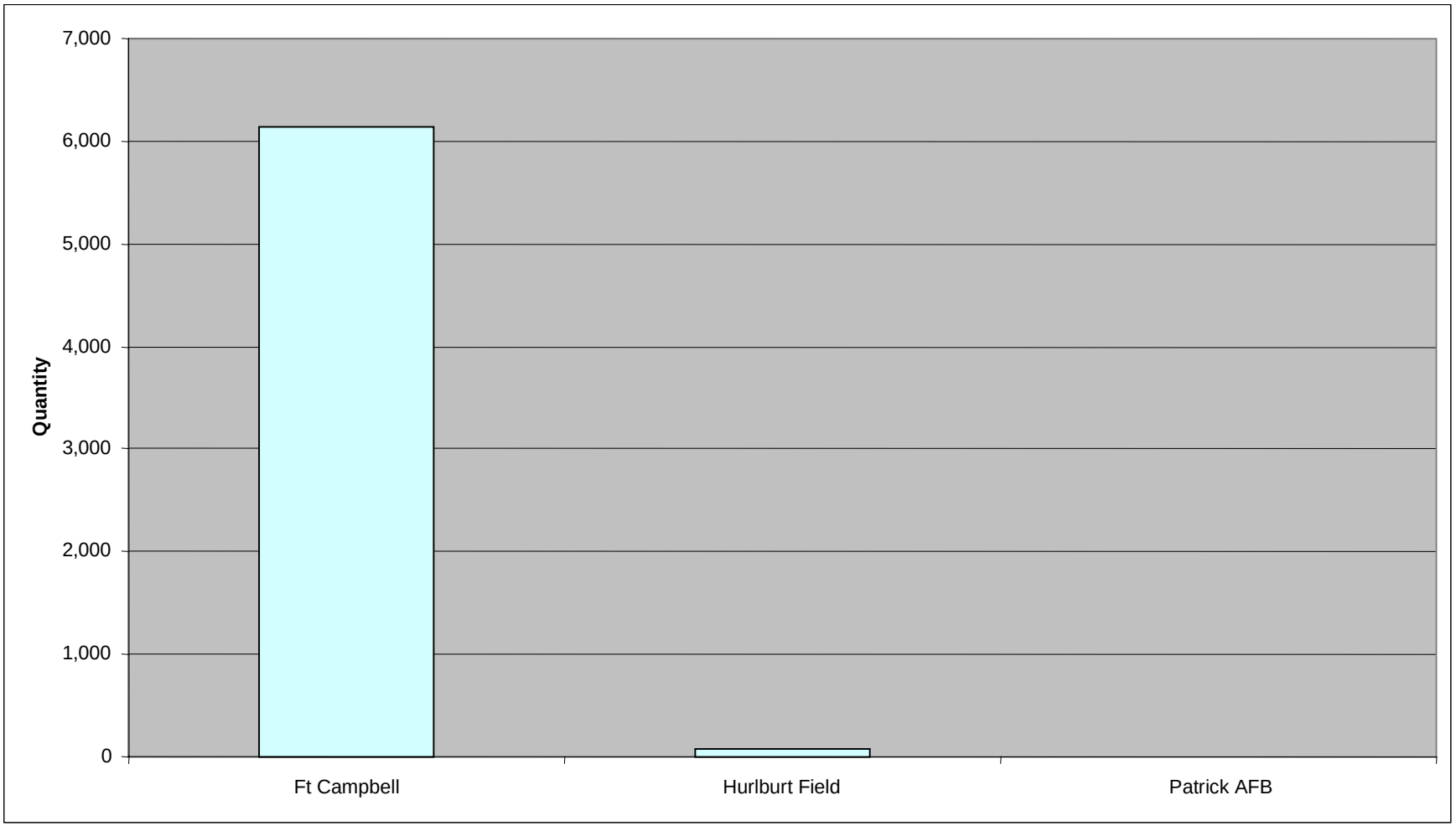

Figure C-25. Quantity of Cargo Items Arriving at the Port of Jacksonville by Origin

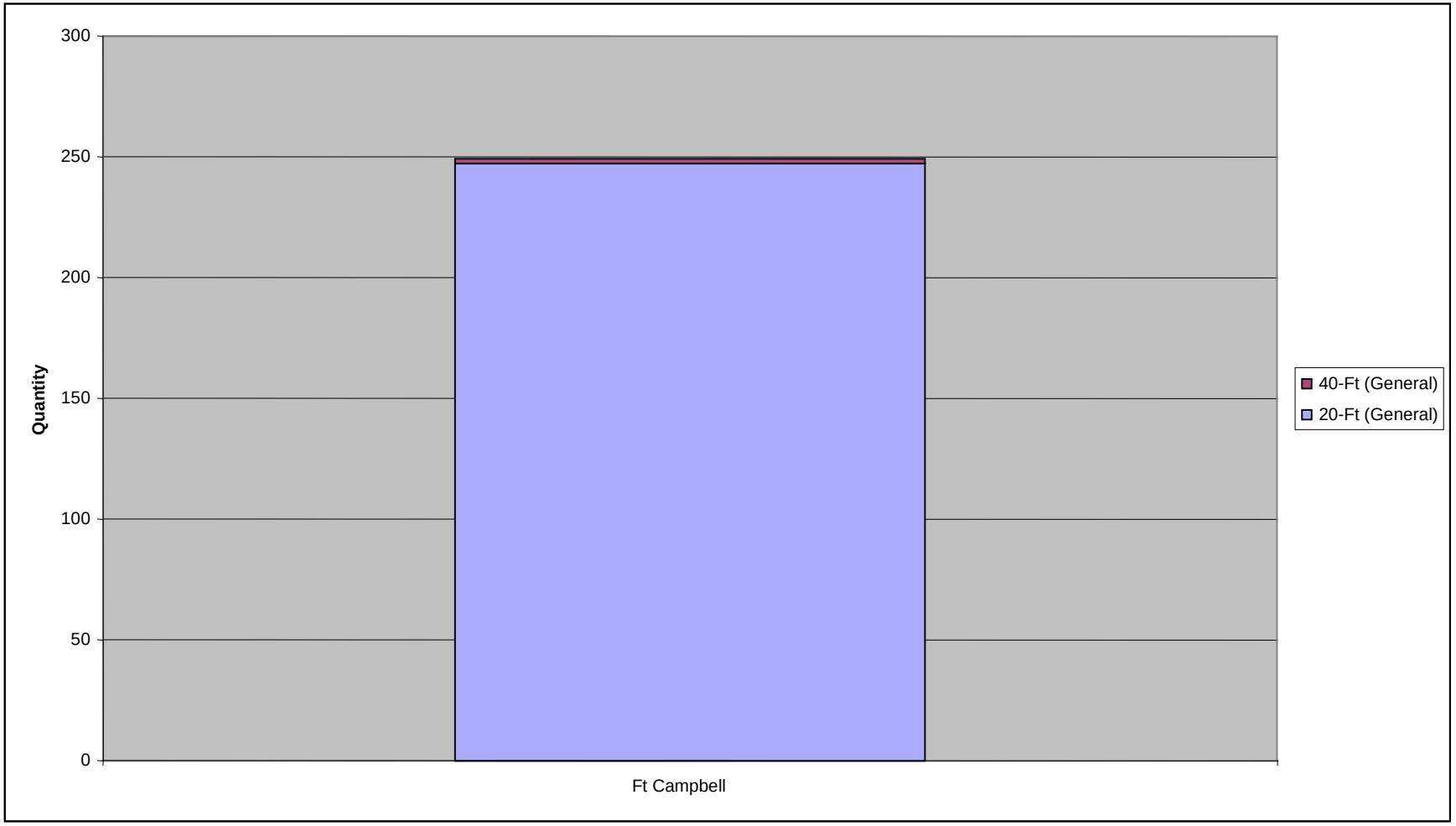

Figure C-26. Quantity of Containers Arriving at the Port of Jacksonville by Origin

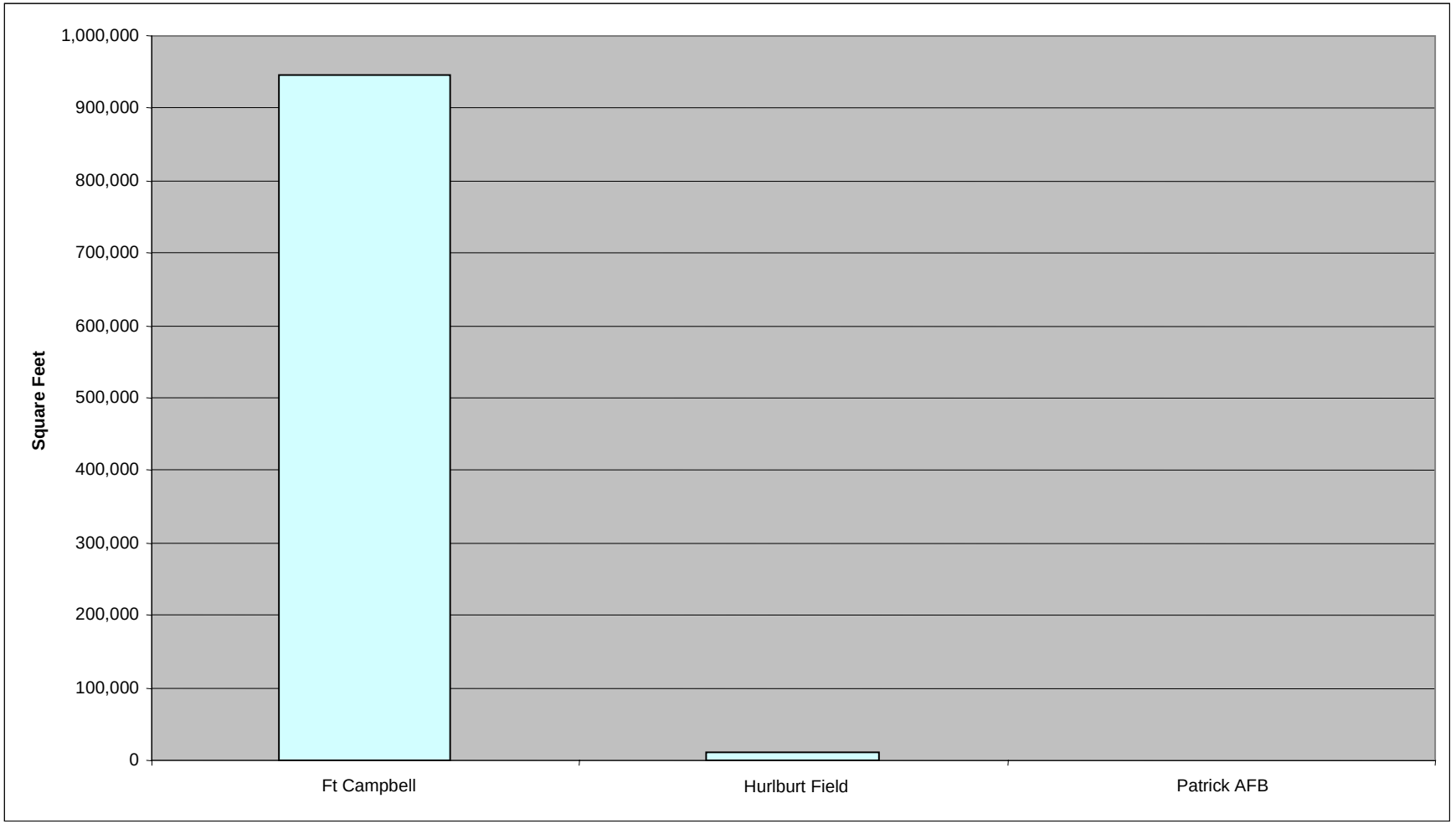

Figure C-27. Square Feet of Cargo Arriving at the Port of Jacksonville by Origin

APPENDIX D

PORT OF MOREHEAD CITY

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The requirements in Appendix D differ from those in the remainder of the report. The objective of this report is to communicate MSC-controlled cargo requirements flowing through each port. However, for the Port of Morehead City, the only requirements in the TPFDD are Marine Corps units that are not MSC-controlled. These units are predominately under the control of the supporting CINC. Instead of eliminating the Port of Morehead City from the report, these "other" requirements are included here.

According to the TPFDD, there are five origins sending cargo to the Port of Morehead City. These origins are shown in Figure D-1. The Port of Morehead City receives entirely Marine Corps cargo. Origins in excess of 400 miles send all of their cargo to the Port Morehead City of by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. All aircraft self-deploy to the port. Figures D-2 through D-6 show the quantity of transports (containers, railcars, self-deploying aircraft, and convoying vehicles) required to move to the Port of Morehead City.

Figures D-7 through D-12 illustrate the quantity of items arriving at the port. Figure D-7 is the total quantity of items. Figures D-8 through D-12 break this down into more detail. Figures D-8 and D-9 are the quantity of vehicles arriving at the port. Figure D-8 outlines the wheeled vehicles and Figure D-9 lays out the tracked vehicles. Figure D-10 shows the quantity of aircraft arriving at the port. These are mostly helicopters, and all self move to the port under their own power. Figures D-11 and D-12 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures D-7 through D-12, which lay out the quantity of items arriving, Figure D-13 through D-18 outline the square footage of these categories of cargo.

Figures D-19 through D-26 show how cargo is arriving at the Port of Morehead City. Figure D-19 through D-22 shows the number of cargo items arriving by convoy, rail, or self-deploying. Figures D-23 through D-26 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Morehead City from several origins. Figure D-27 shows visually the amount of cargo coming from each origin.

Figures D-28 and D-30 show the quantity and square footage, respectively, of cargo arriving at the Port of Morehead City by origin. Figure D-29 is the quantity of containers arriving at the Port of Morehead City from each origin.

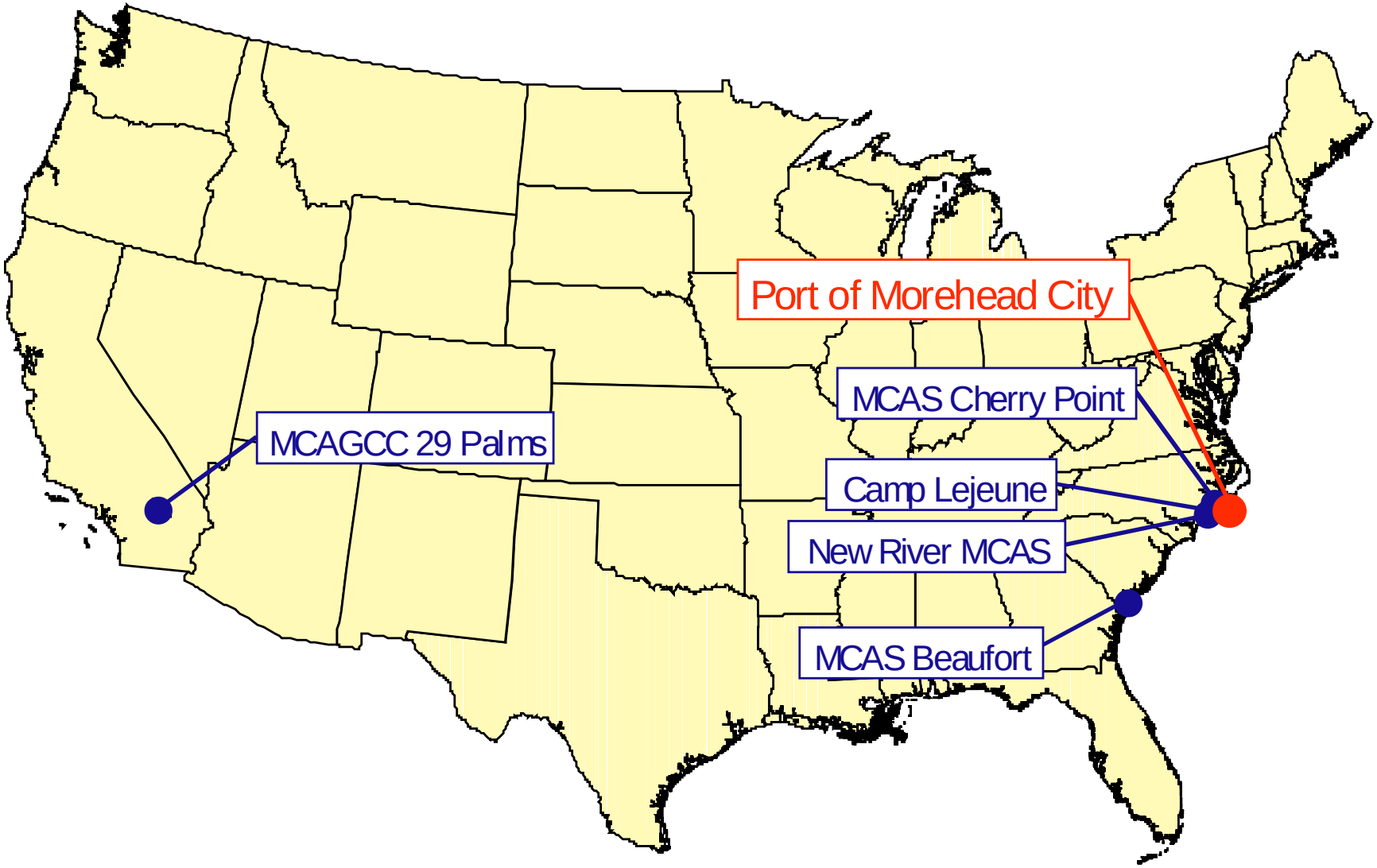

Figure D-1. Cargo Arrives at the Port of Morehead City from Many Origins Cargo

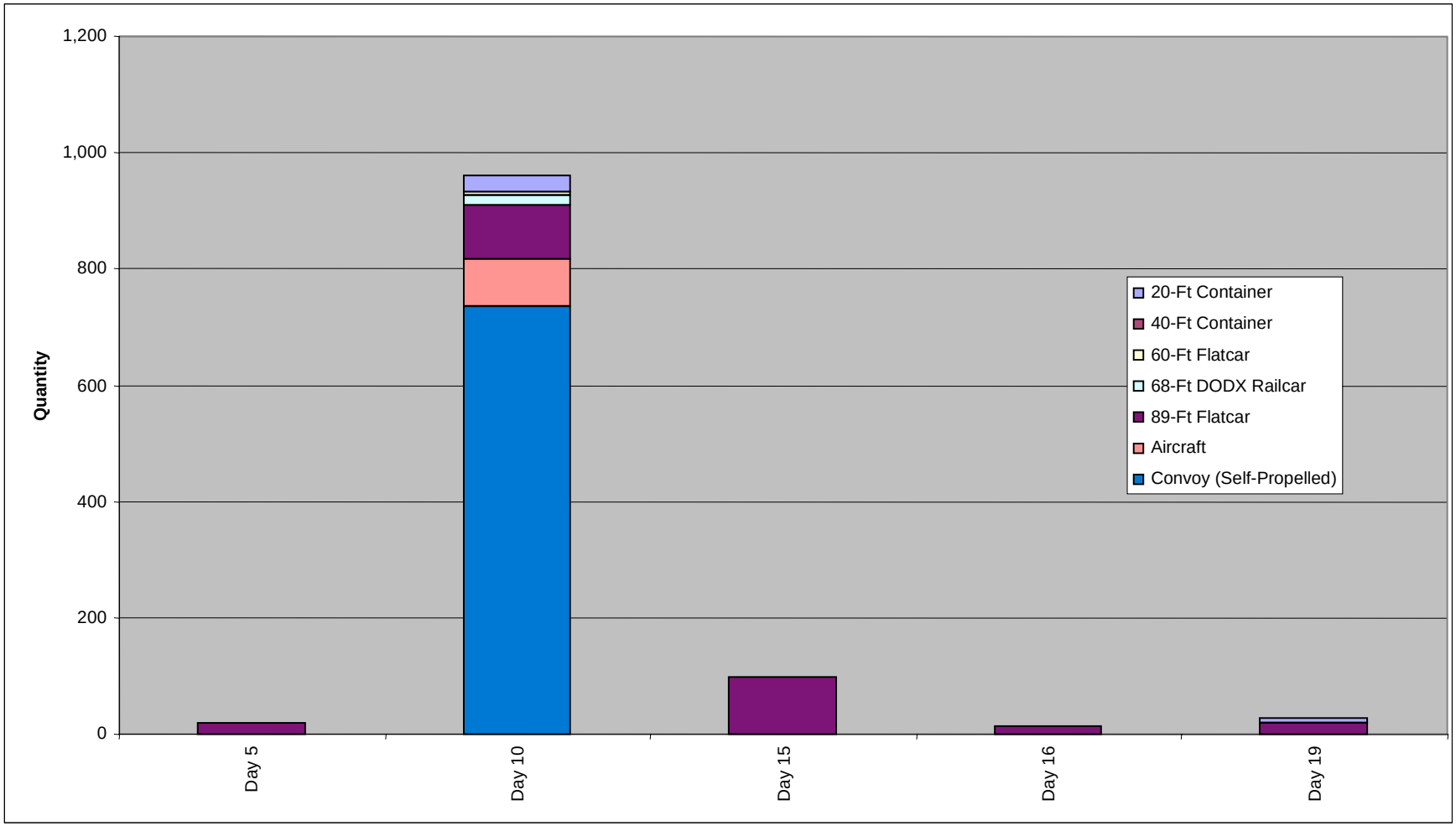

Figure D-2. Total Quantity of Transports Arriving at the Port of Morehead City

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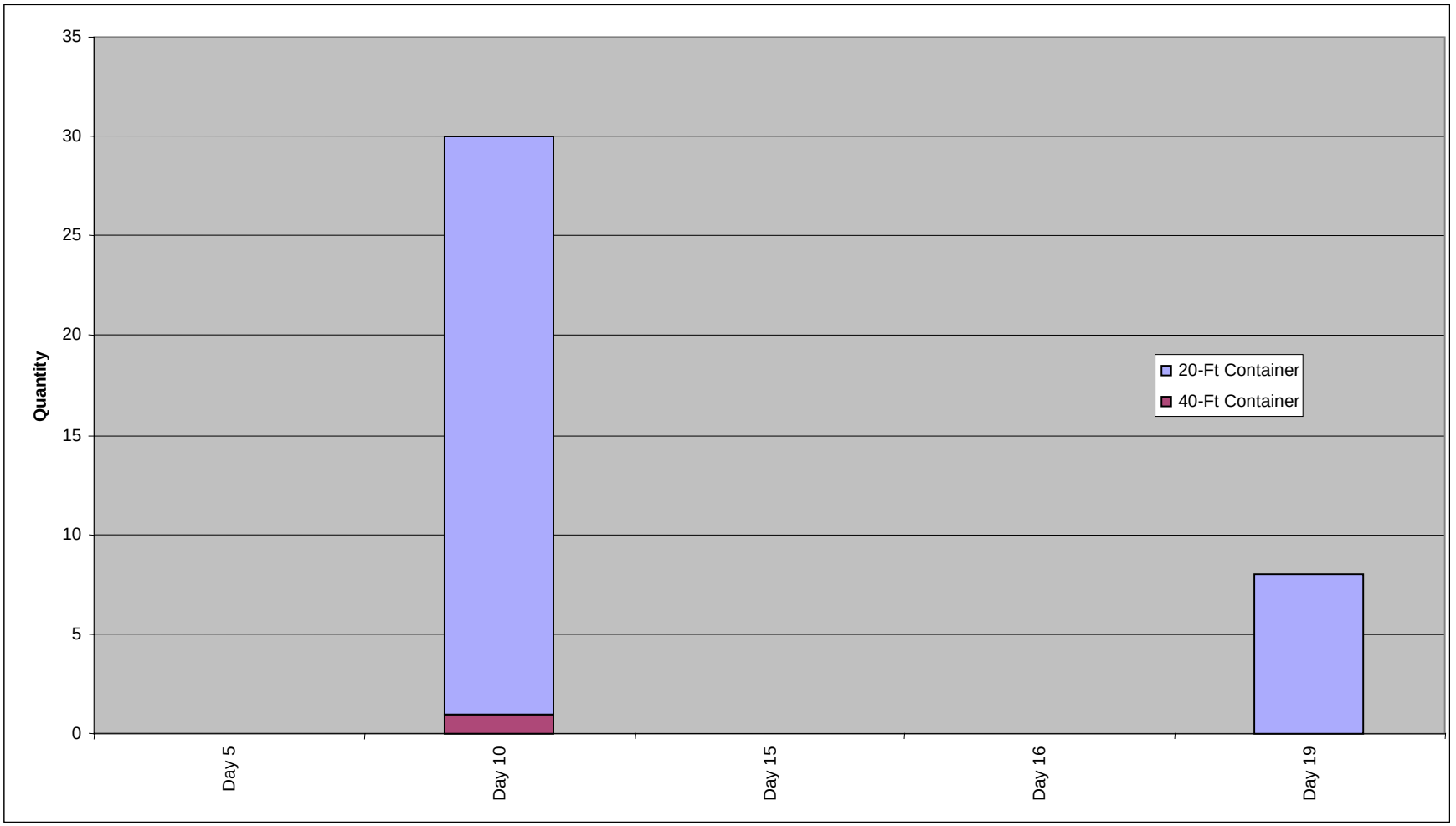

Figure D-3. Quantity of Containers Arriving at the Port of Morehead City

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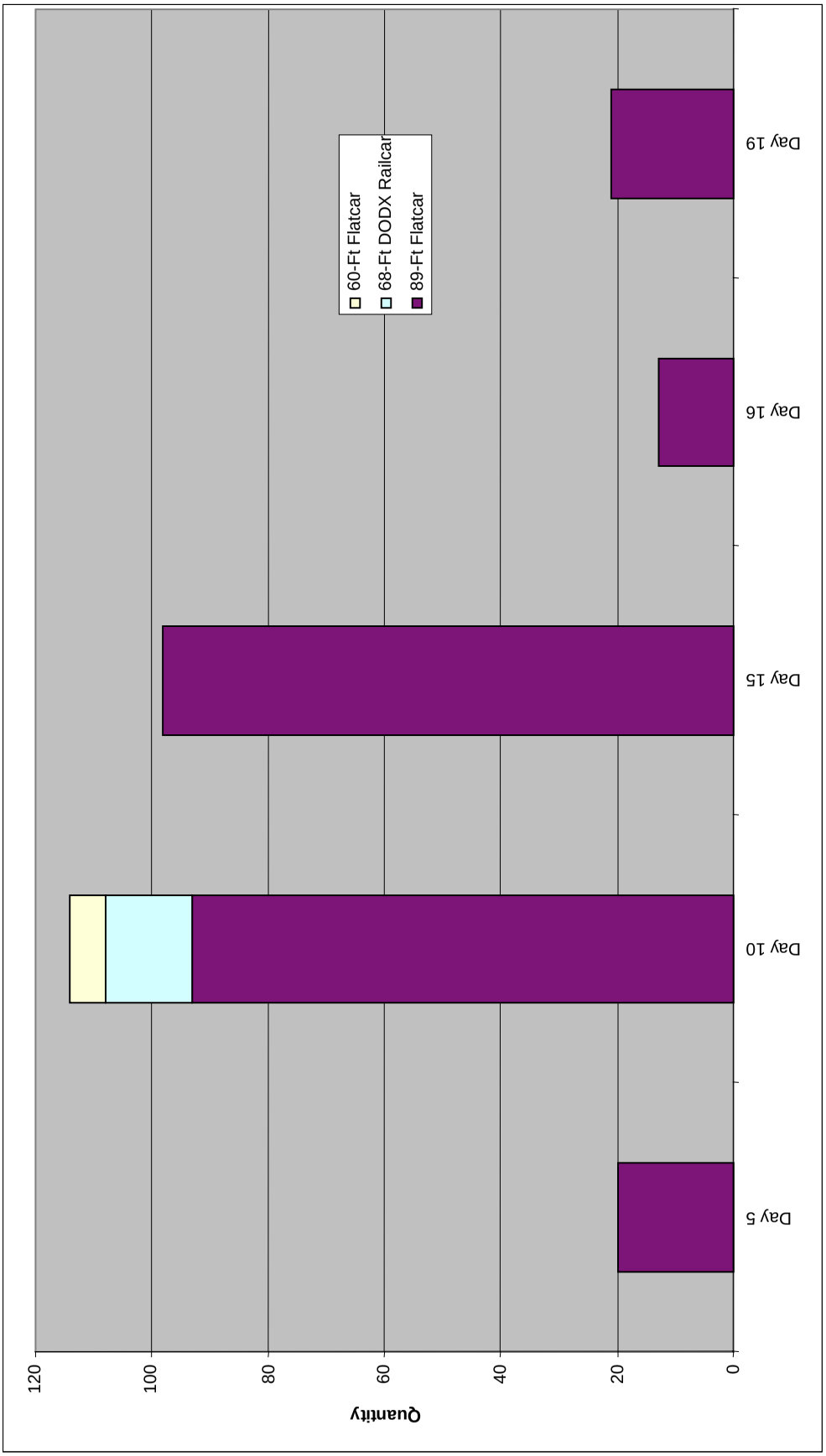


Figure D-4. Quantity of Railcars Arriving at the Port of Morehead City

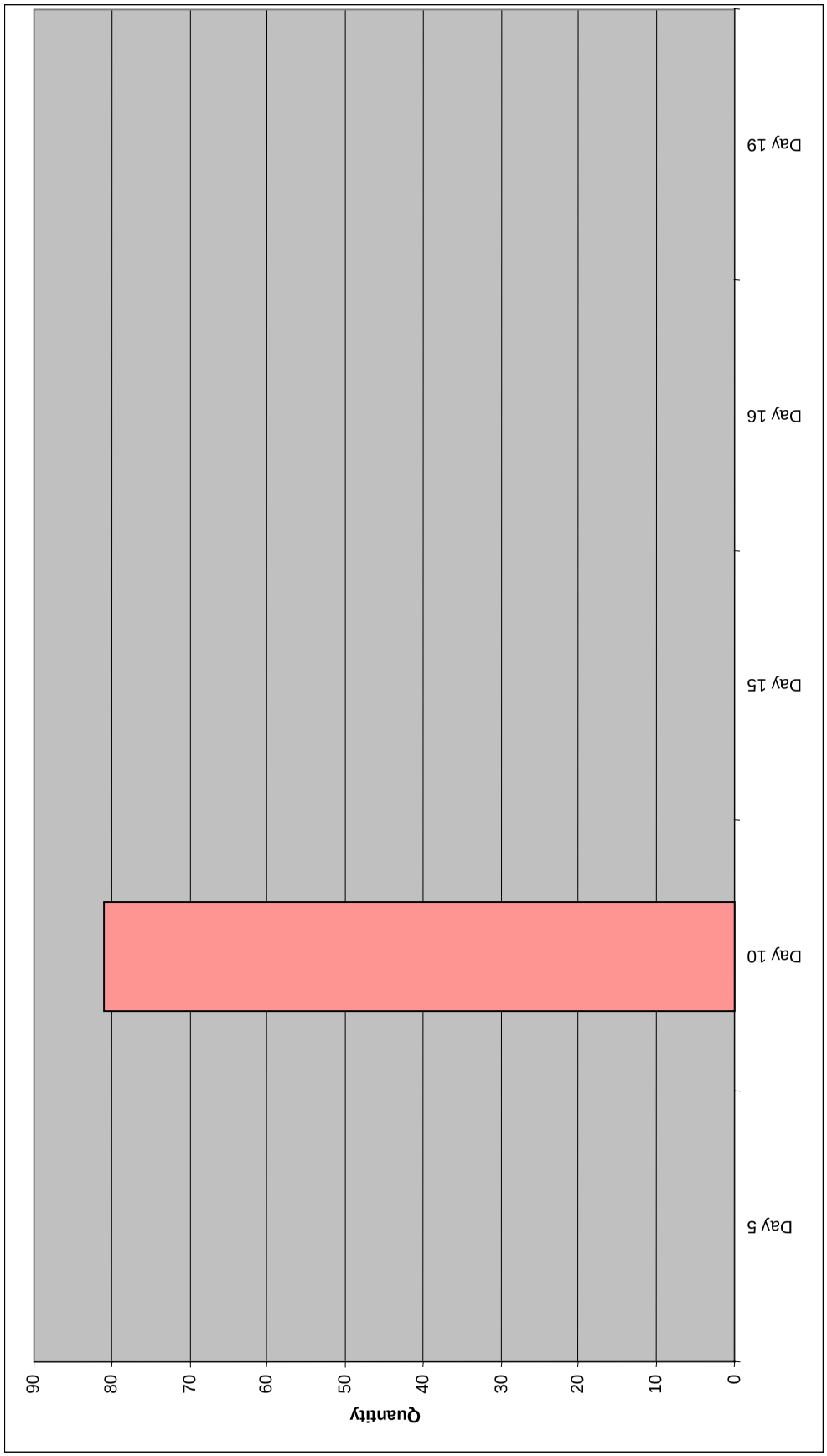


Figure D-5. Quantity of Aircraft Arriving at the Port of Morehead City

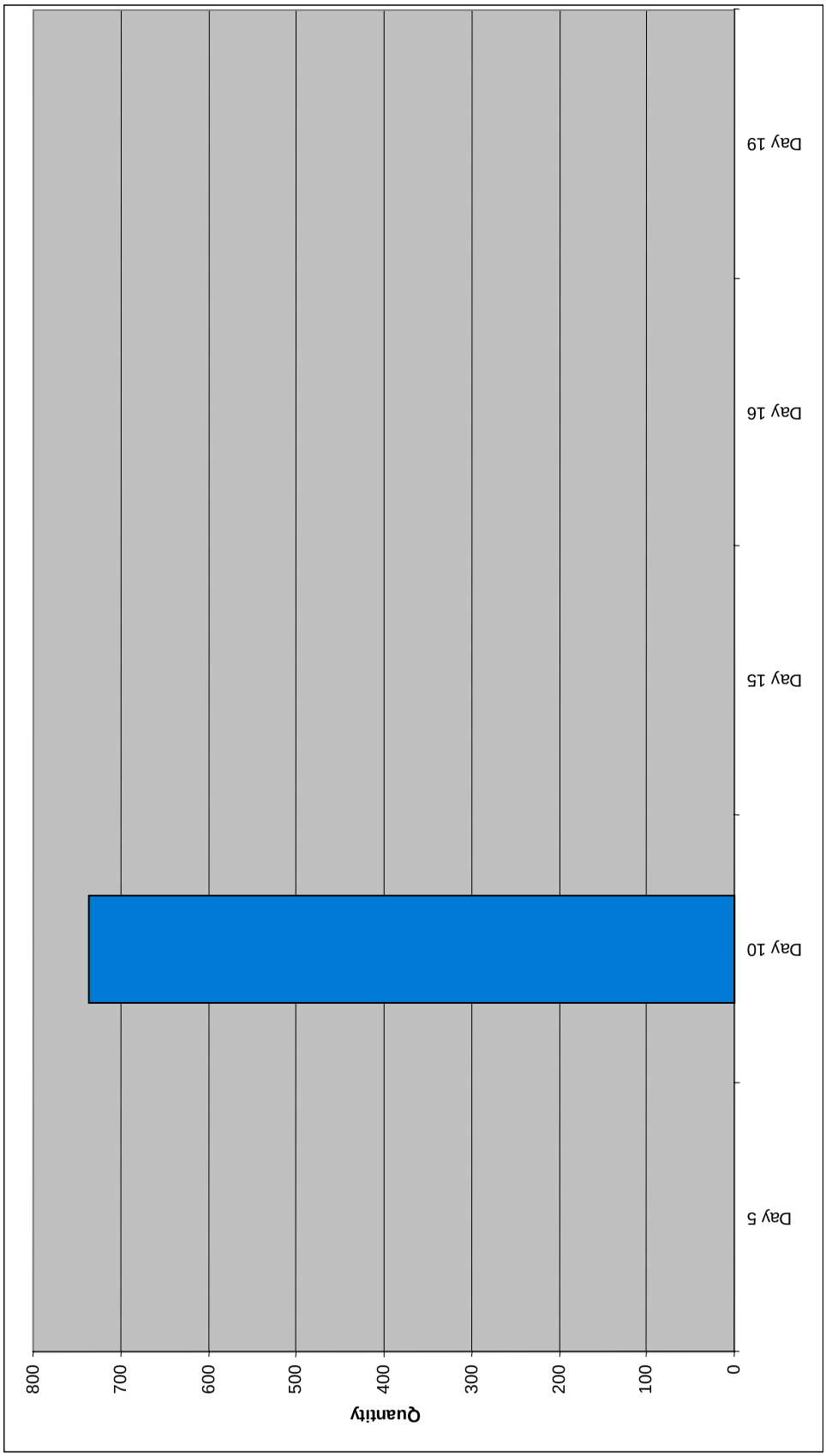
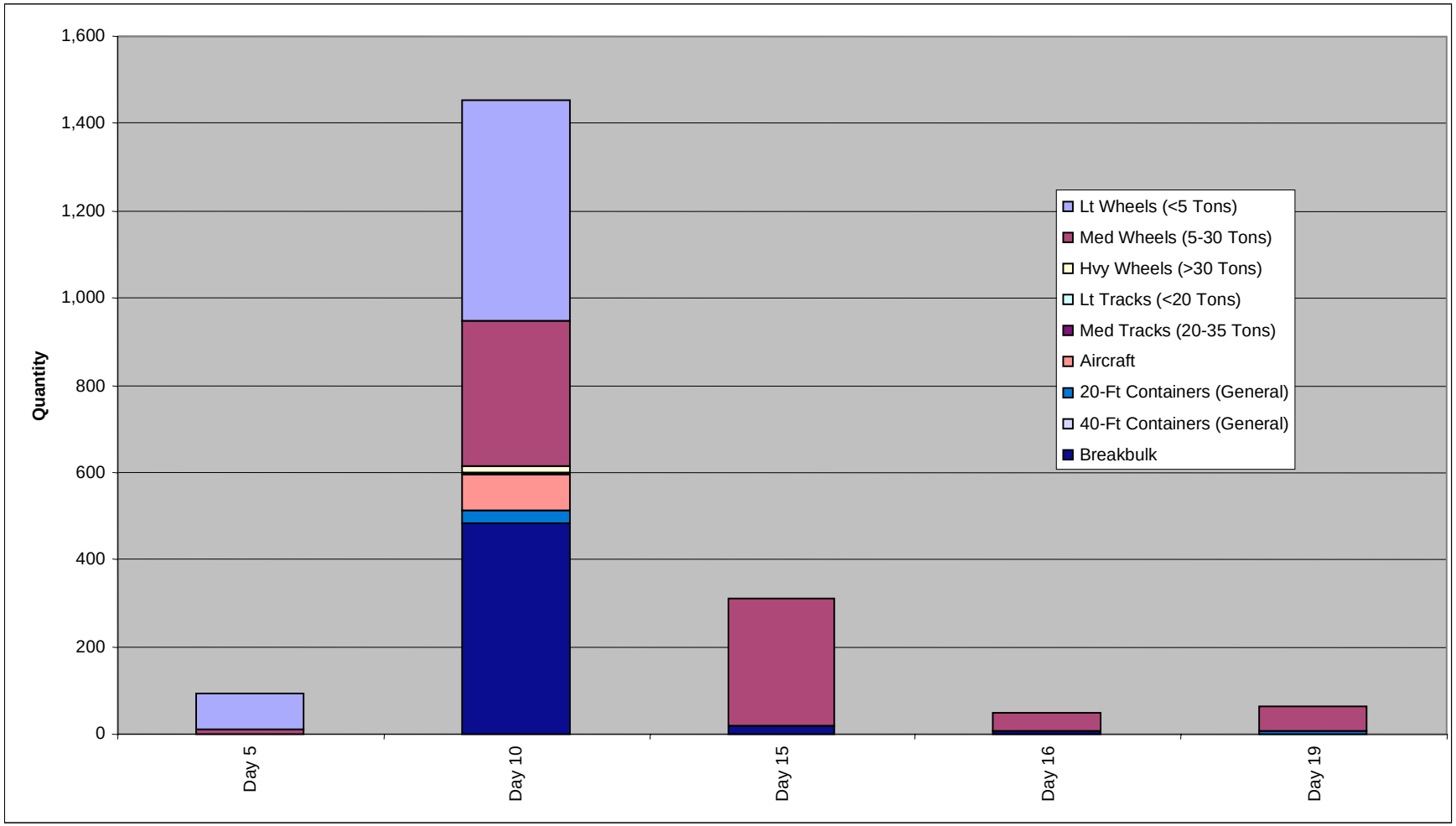


Figure D-6. Quantity of Convoy Vehicles Arriving at the Port of Morehead City



D-7. Total Quantity of Items Arriving at the Port of Morehead City

DRAFT

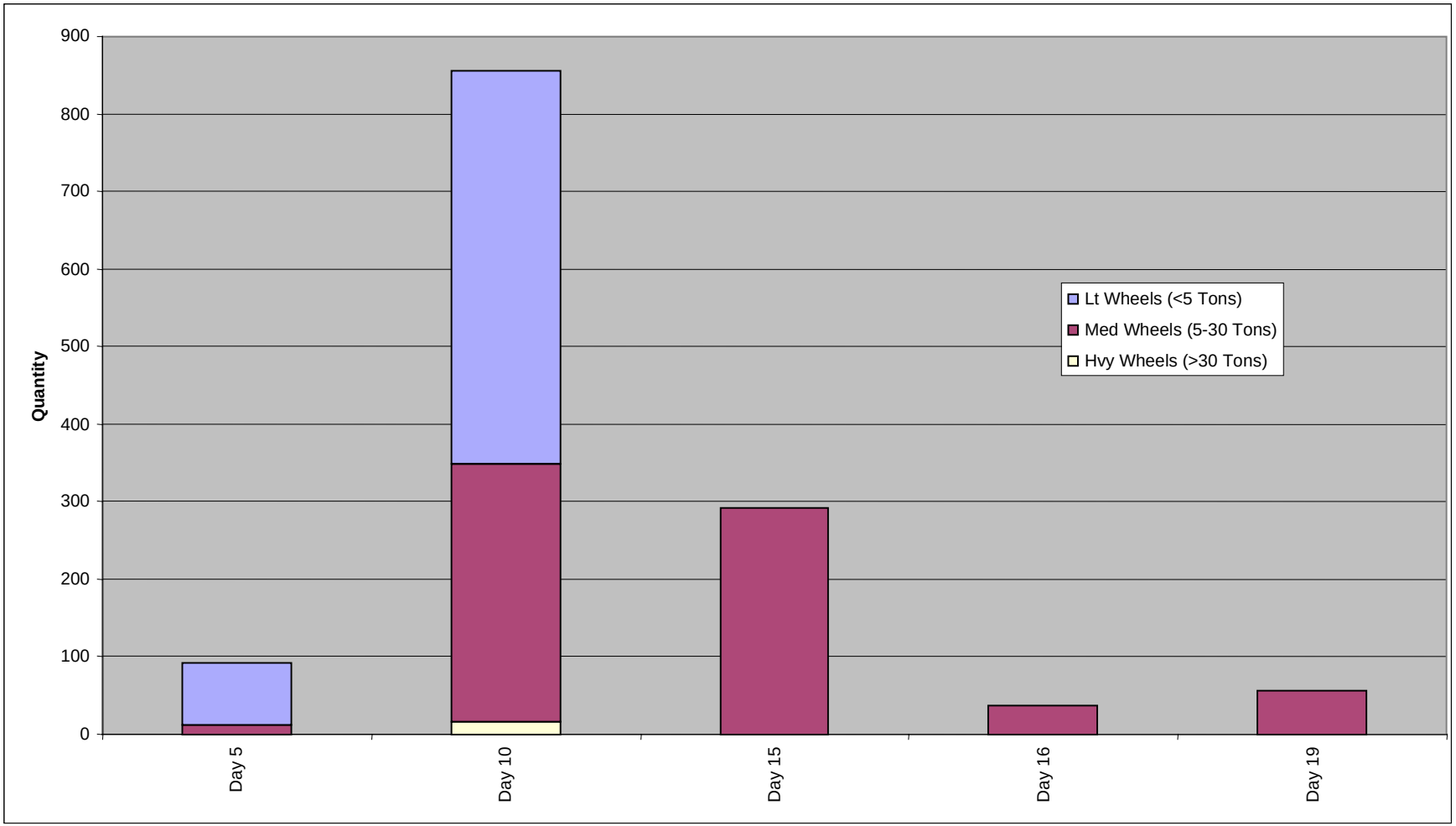


Figure D-8. Quantity of Wheeled Vehicles Arriving at the Port of Morehead City

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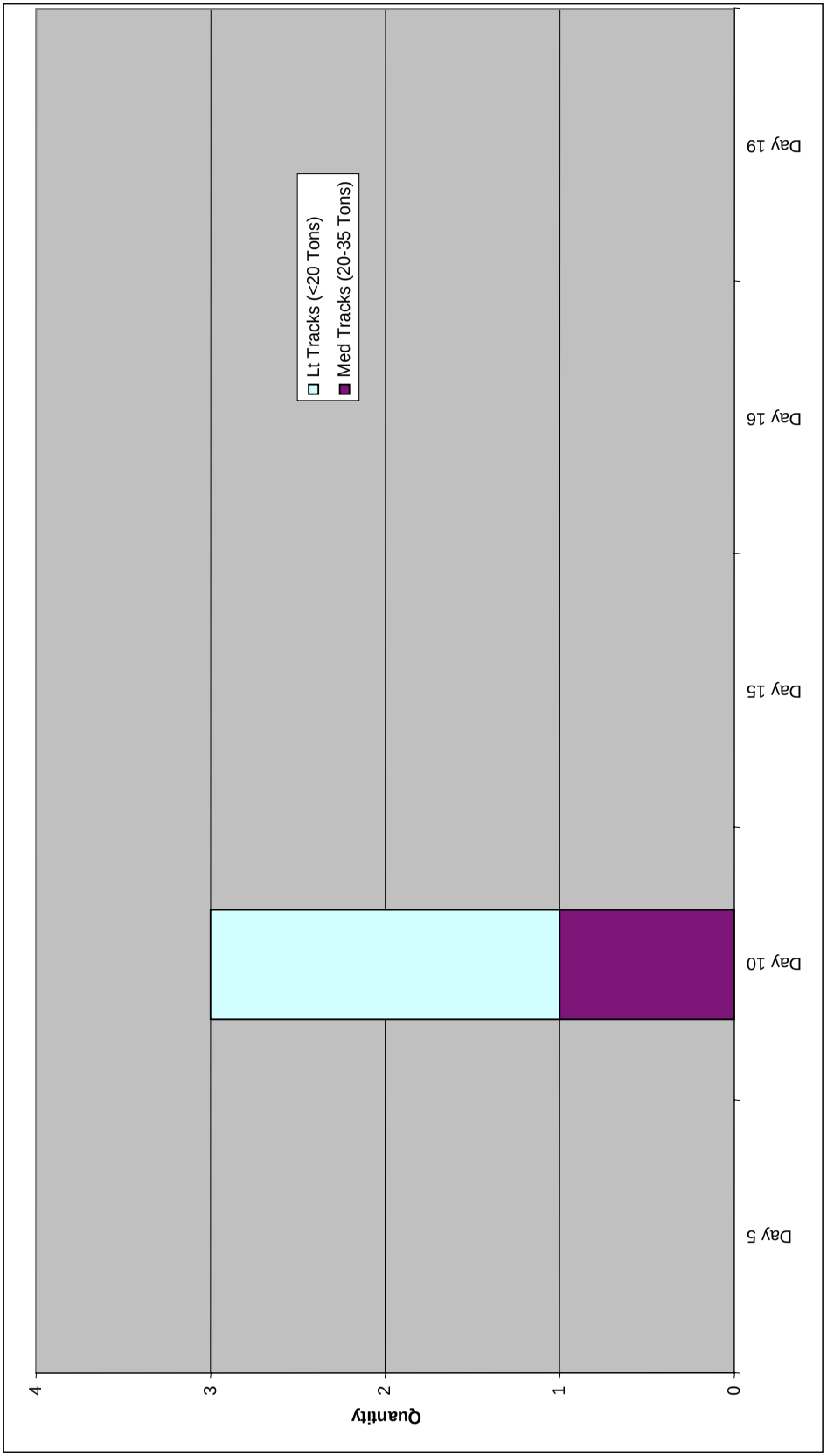

Figure D-9. Quantity of Tracked Vehicles Arriving at the Port of Morehead City

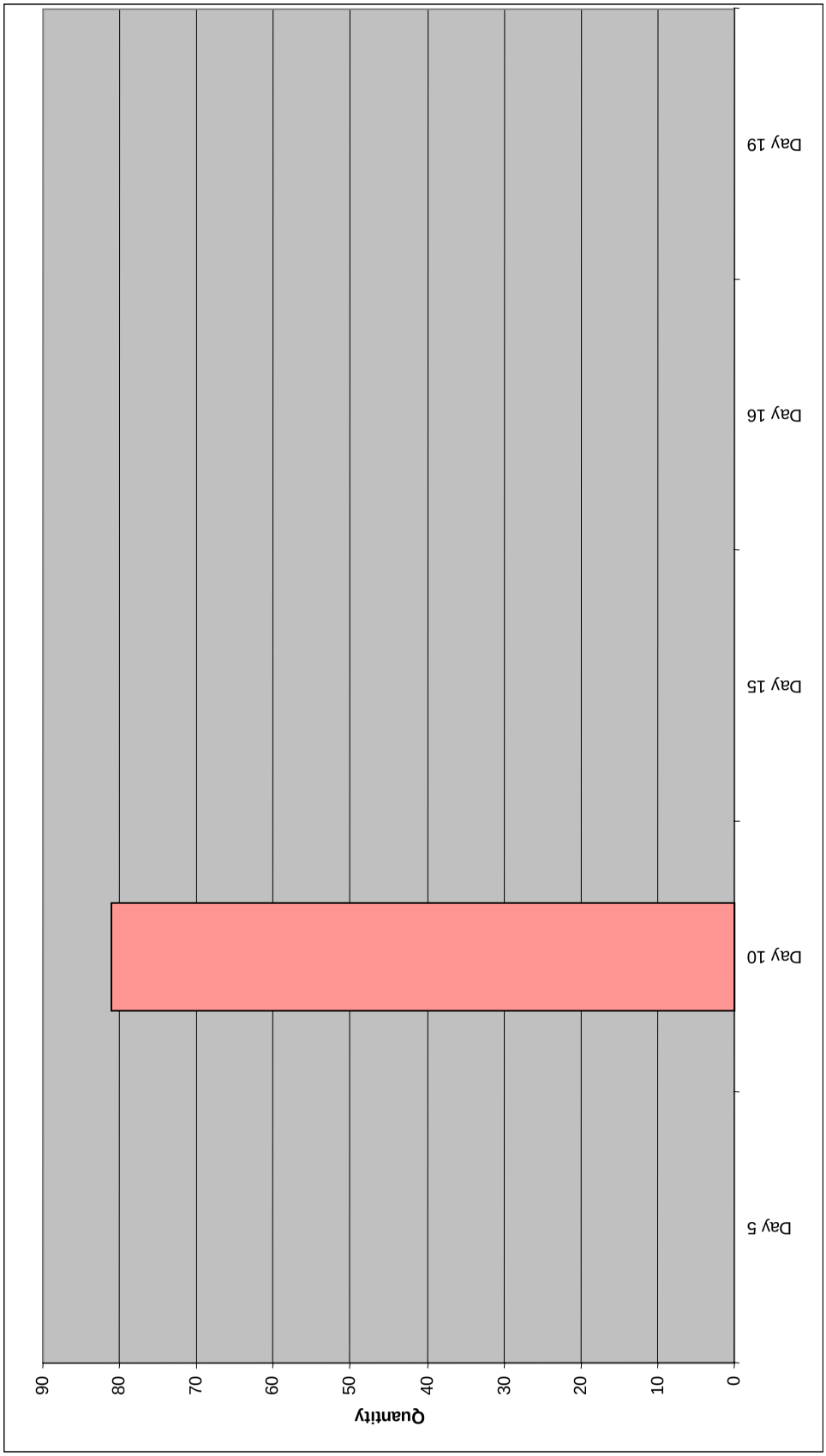

Figure D-10. Quantity of Aircraft Arriving at the Port of Morehead City

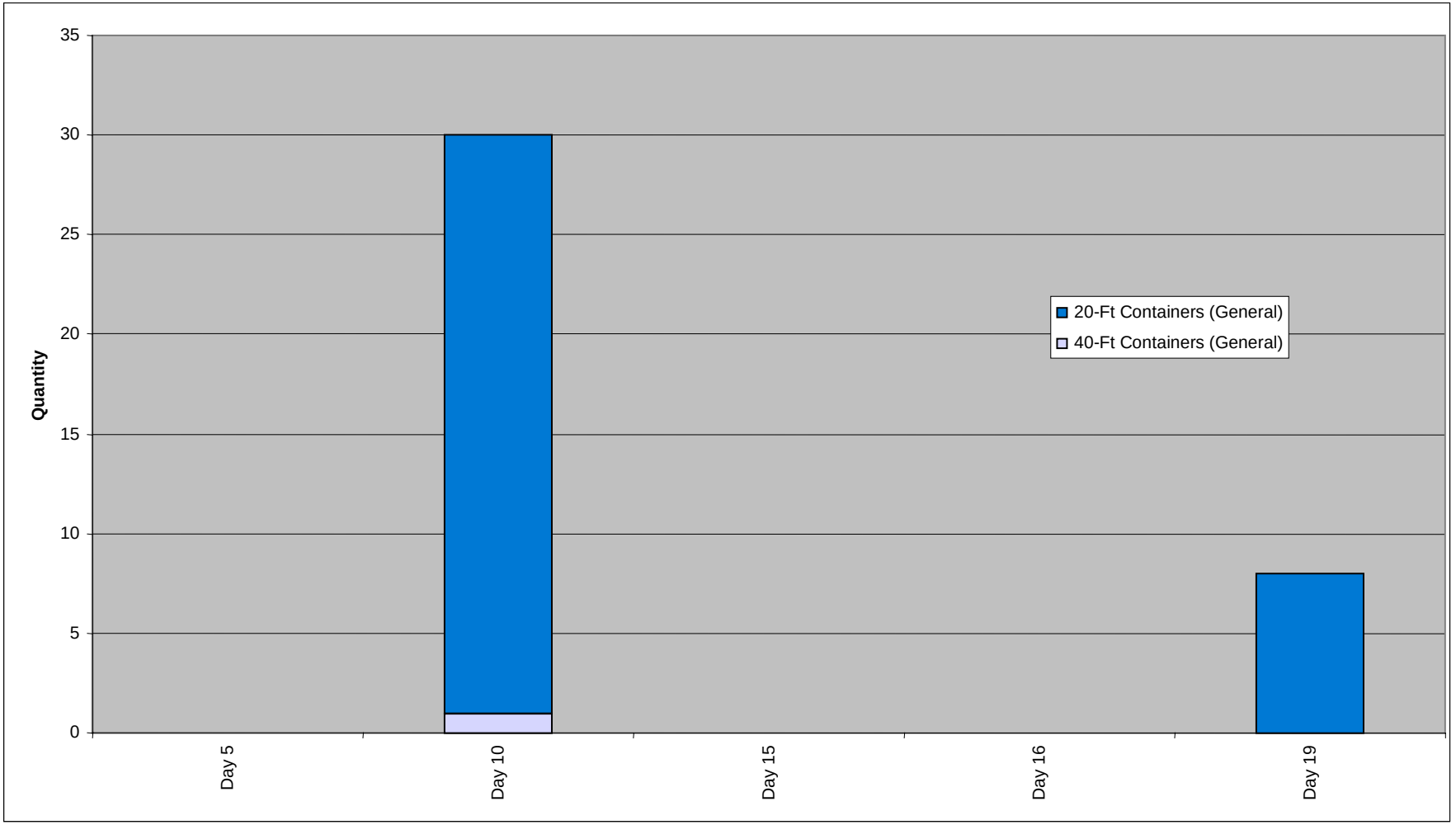

Figure D-11. Quantity of Containers Arriving at the Port of Morehead City

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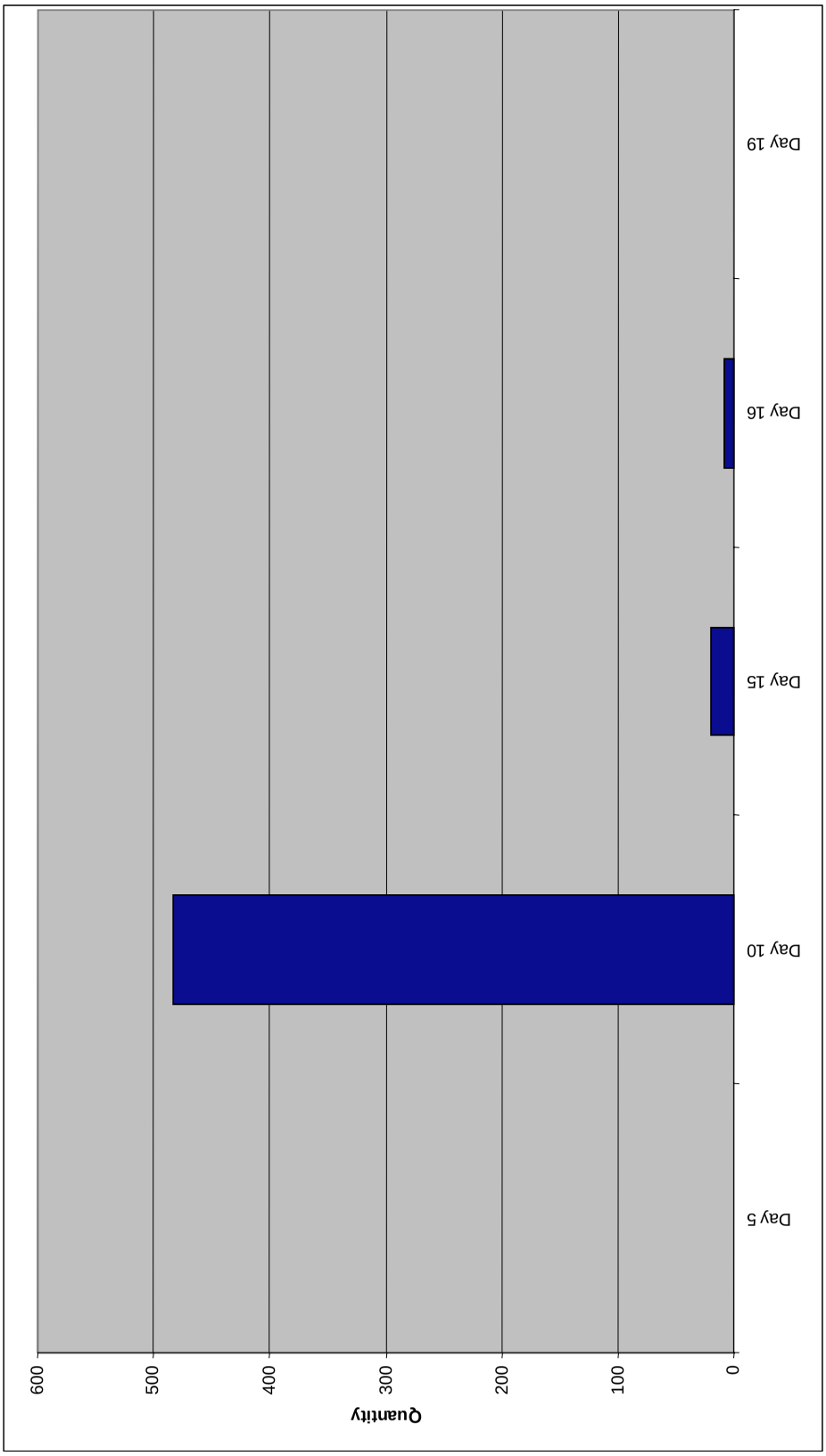

Figure D-12. Quantity of Breakbulk Cargo Items Arriving at the Port of Morehead City

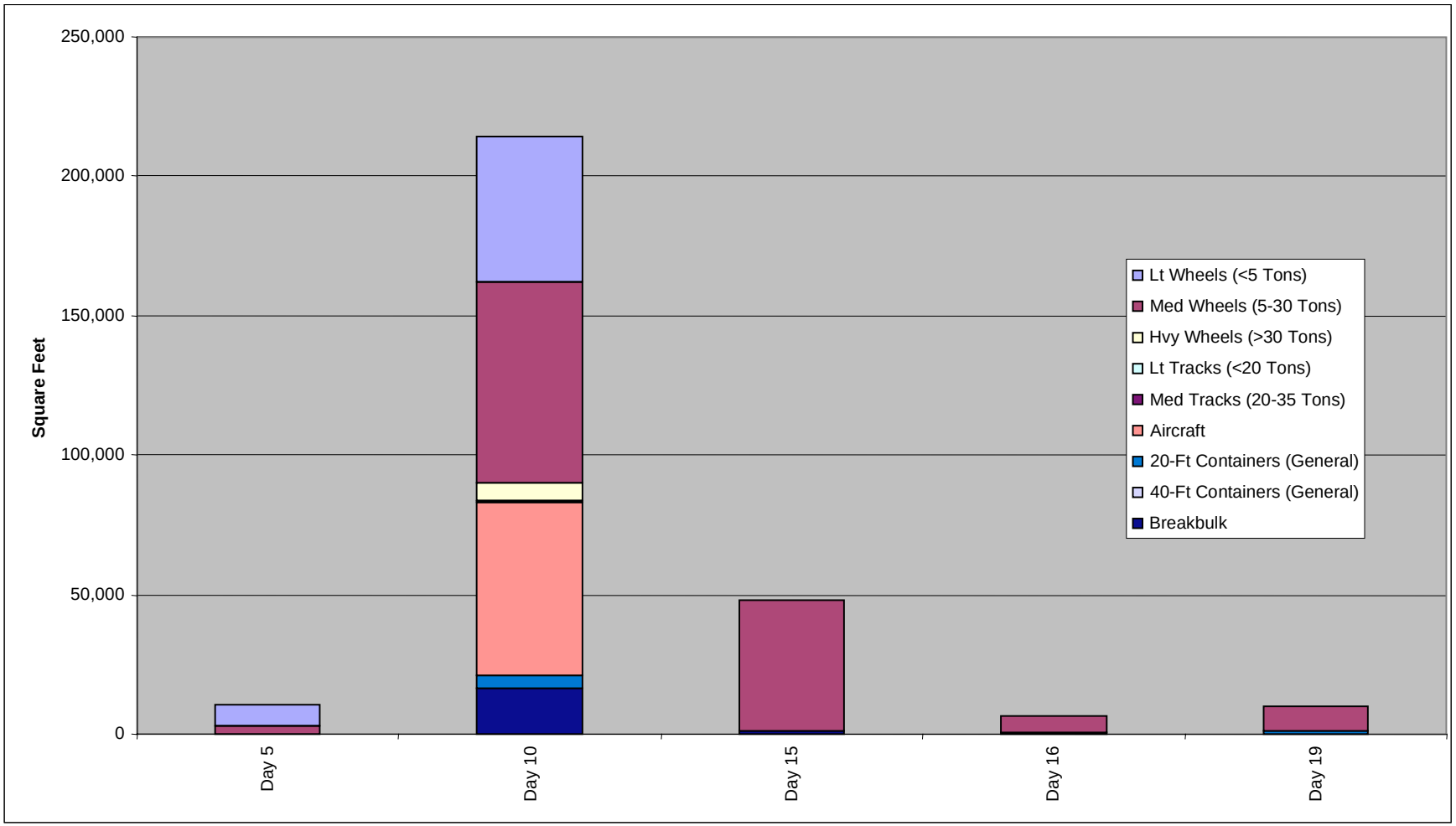

Figure D-13. Total Square Feet of Cargo Arriving at the Port of Morehead City

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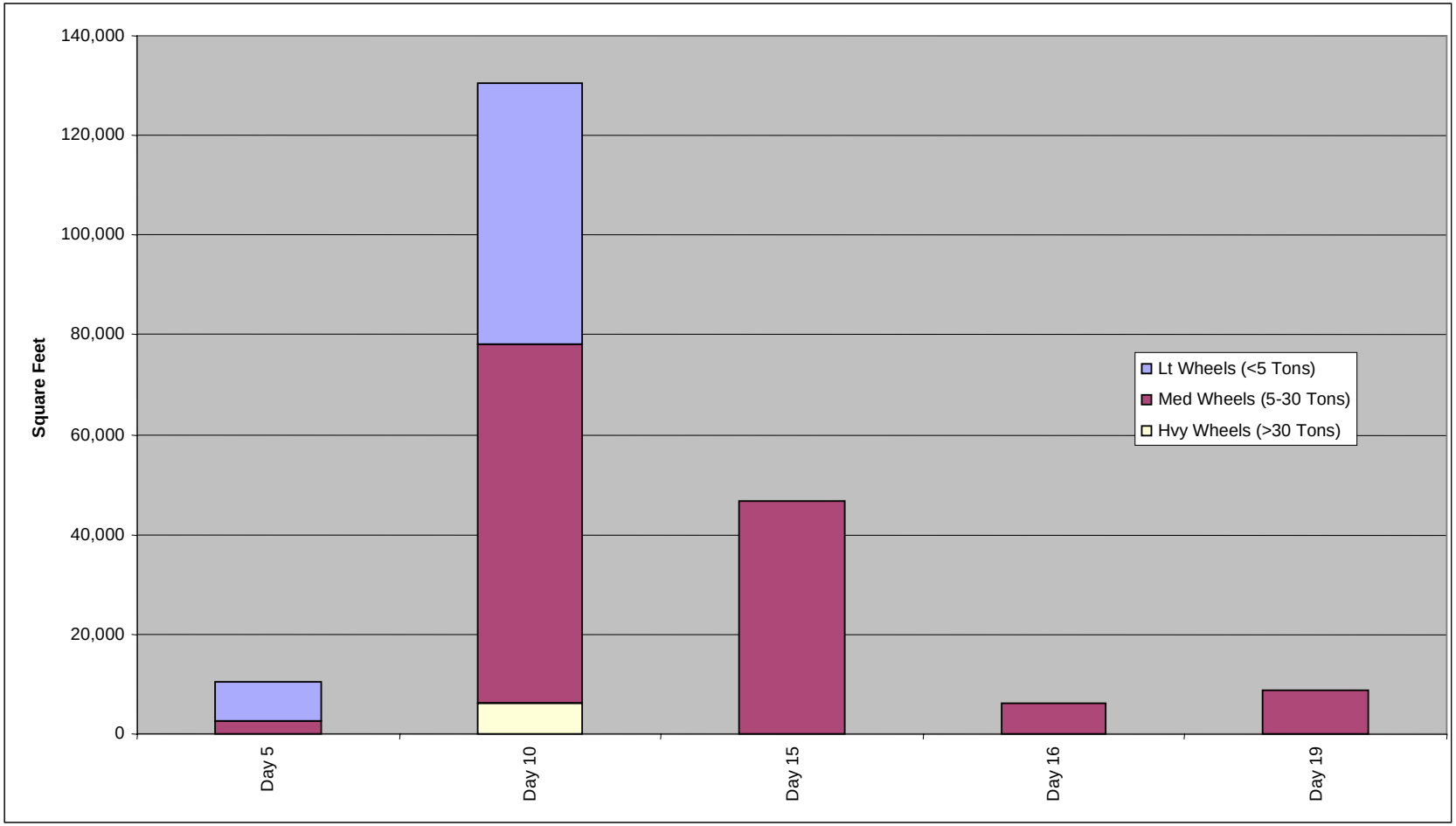

Figure D-14. Square Feet of Wheeled Vehicles Arriving at the Port of Morehead City

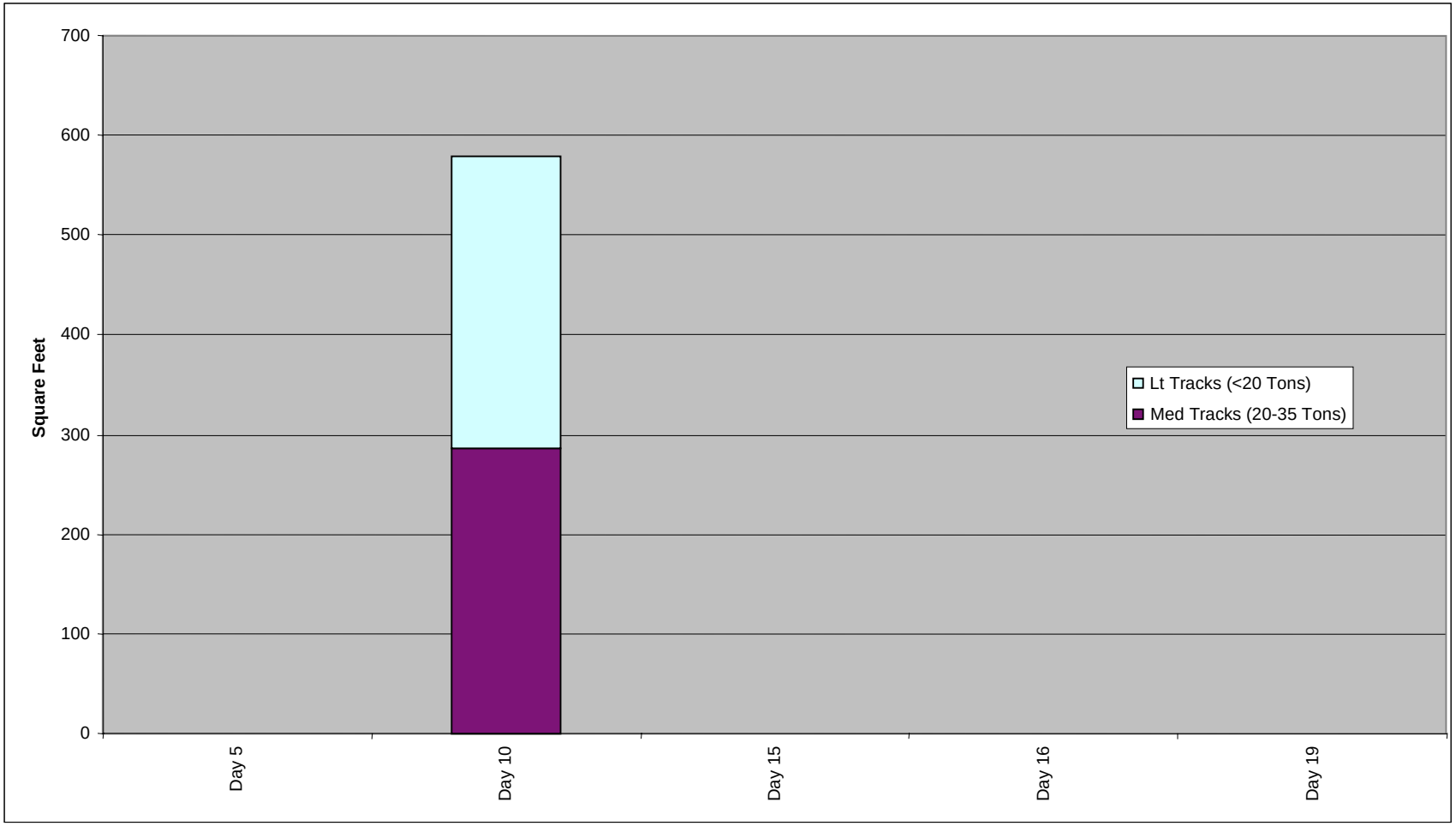

Figure D-15. Square Feet of Tracked Vehicles Arriving at the Port of Morehead City

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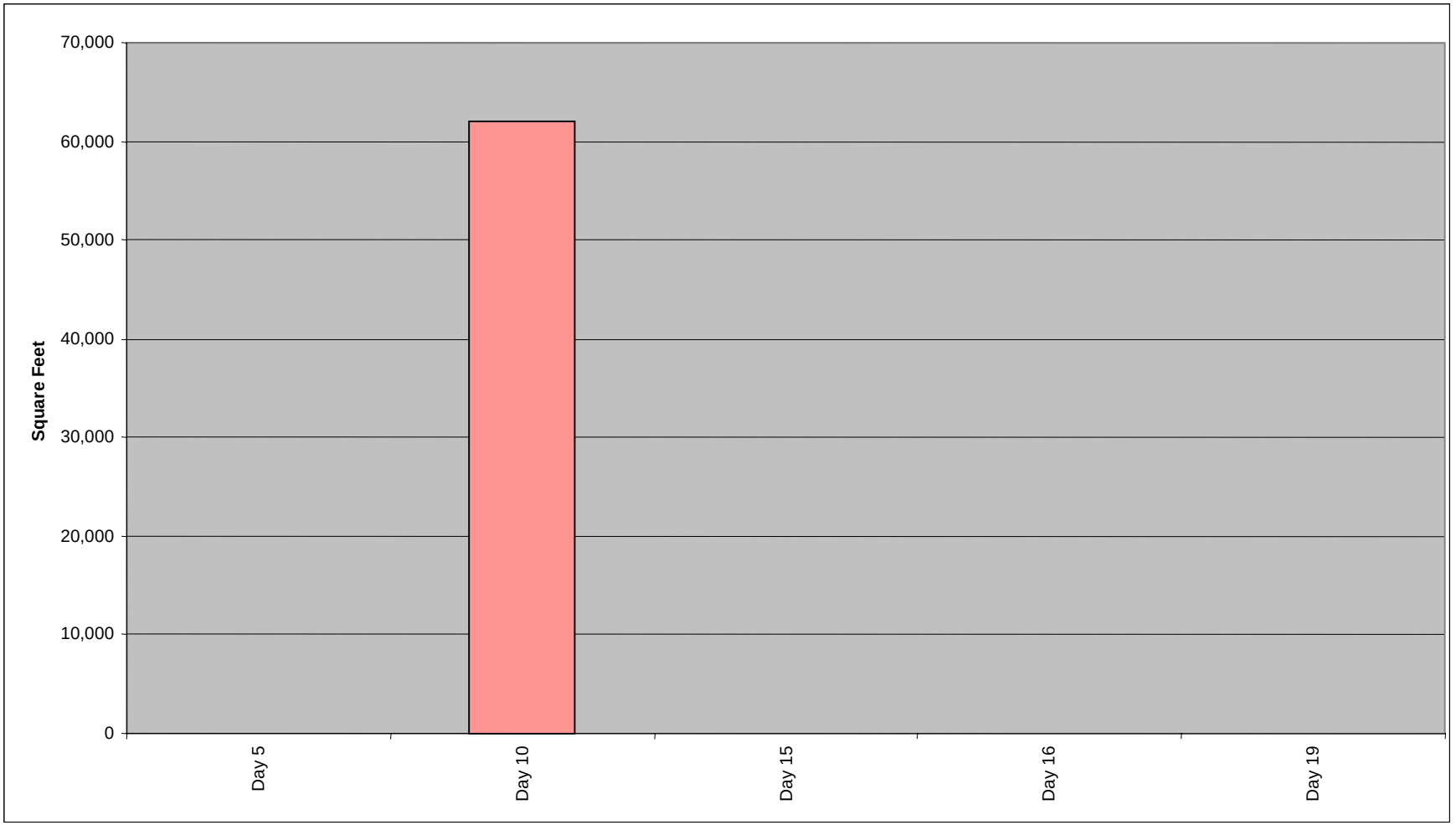

Figure D-16. Square Feet of Aircraft Arriving at the Port of Morehead City

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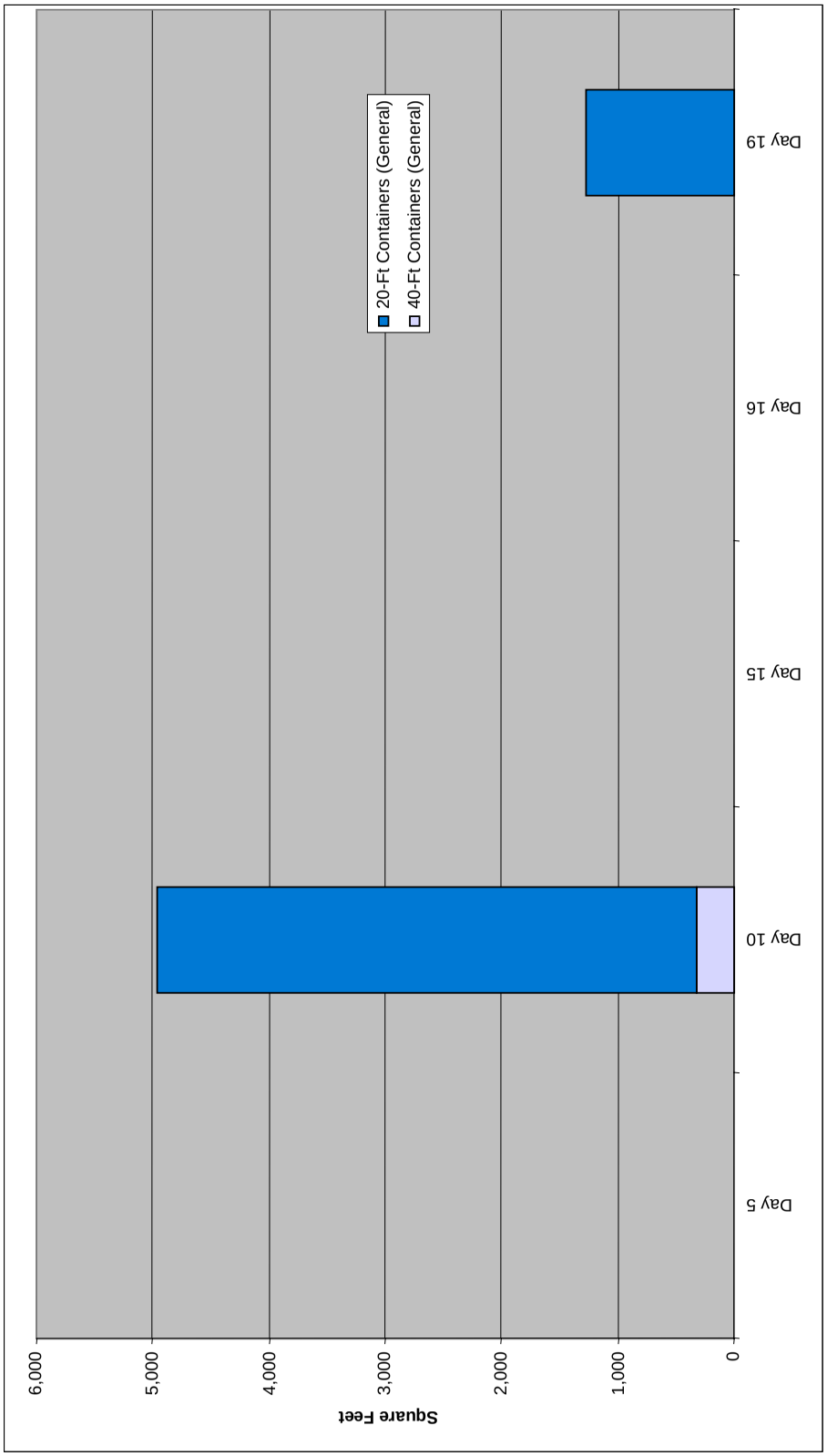

Figure D-17. Square Feet of Containers Arriving at the Port of Morehead City

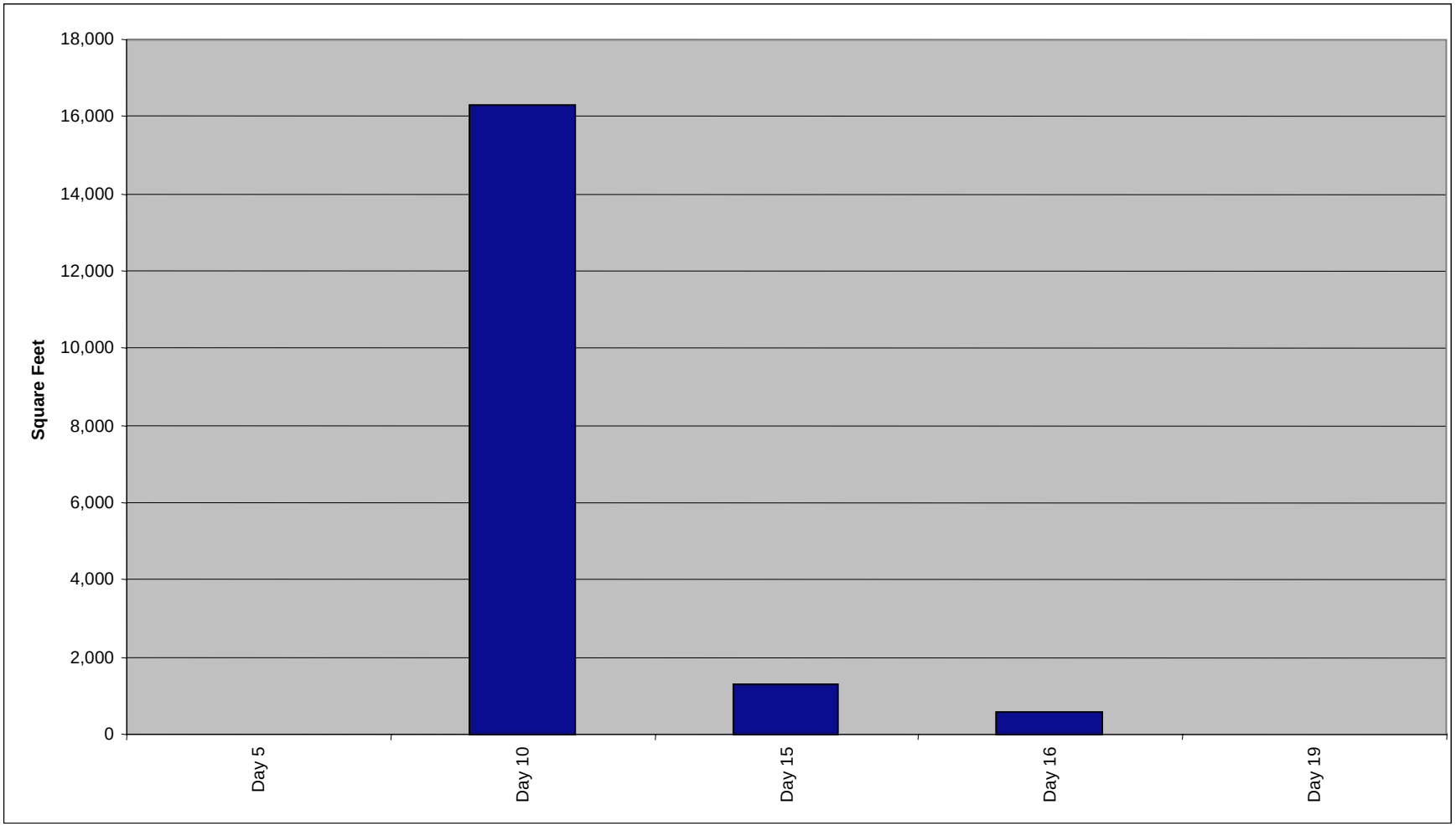

Figure D-18. Square Feet of Breakbulk Cargo Items Arriving at the Port of Morehead City

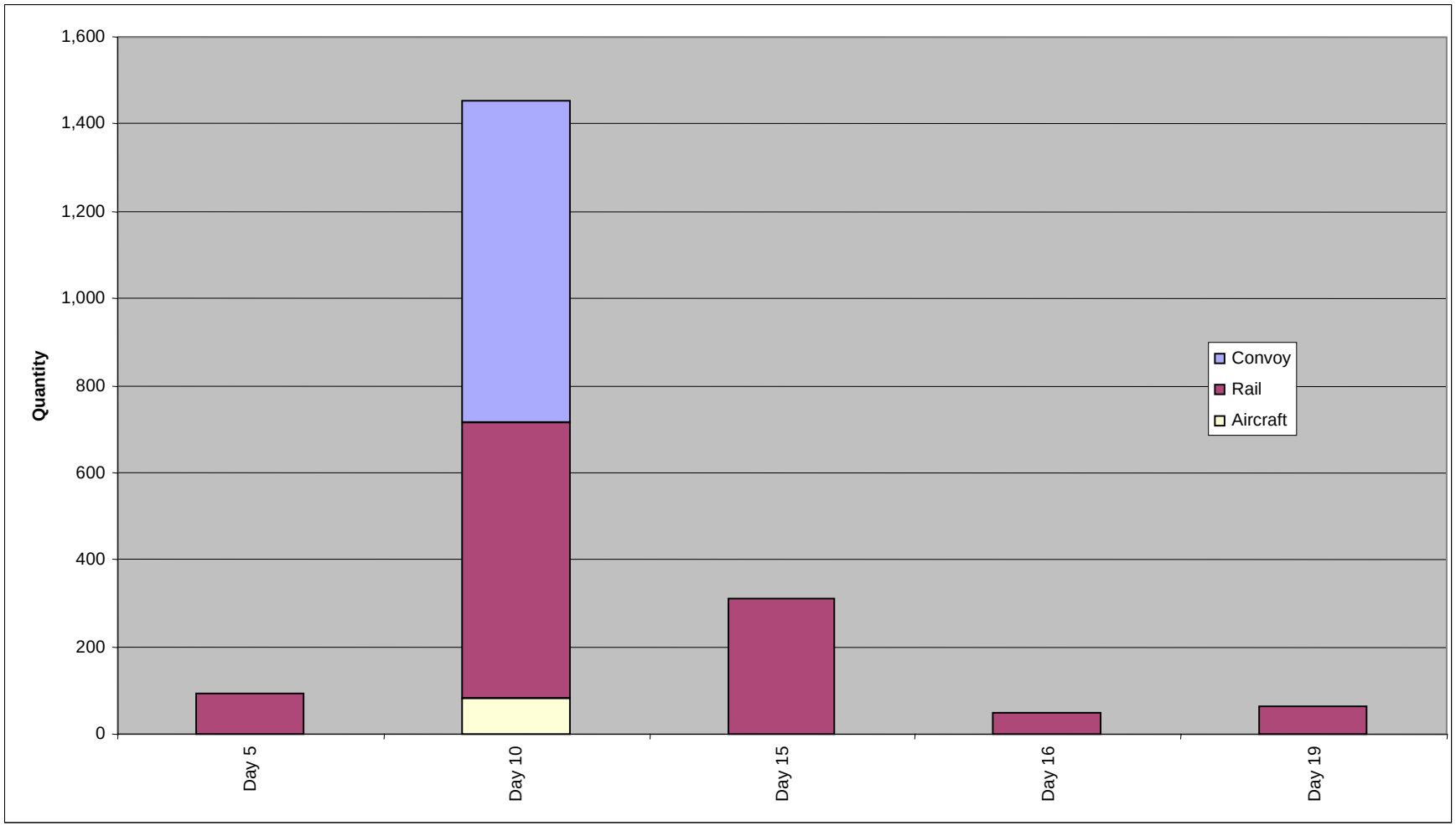

Figure D-19. Quantity of Cargo Items Arriving by Mode to the Port of Morehead City

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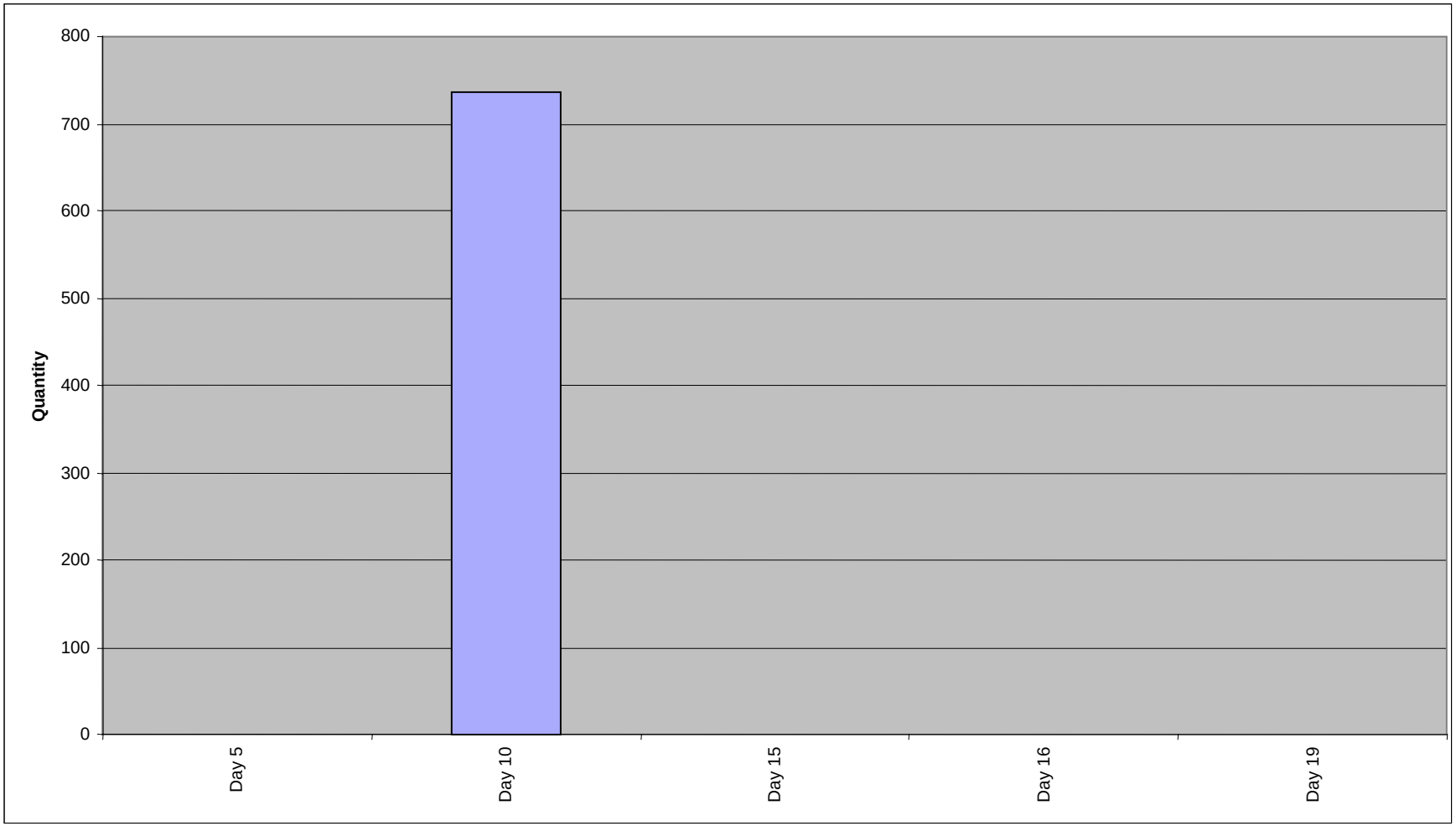

Figure D-20. Quantity of Wheeled Vehicles Convoying to the Port of Morehead City

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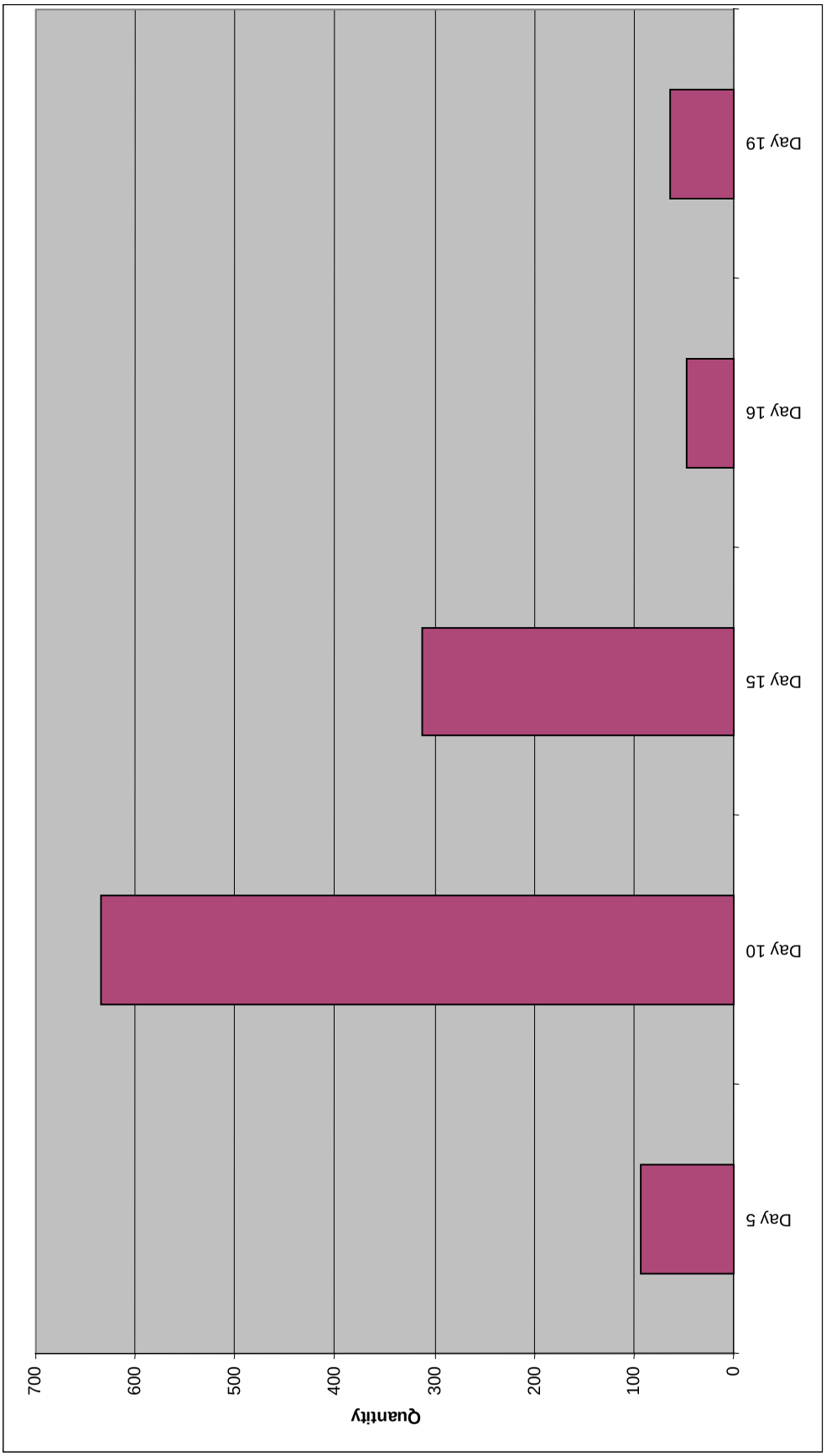

Figure D-21. Quantity of Items Arriving by Rail to the Port of Morehead City

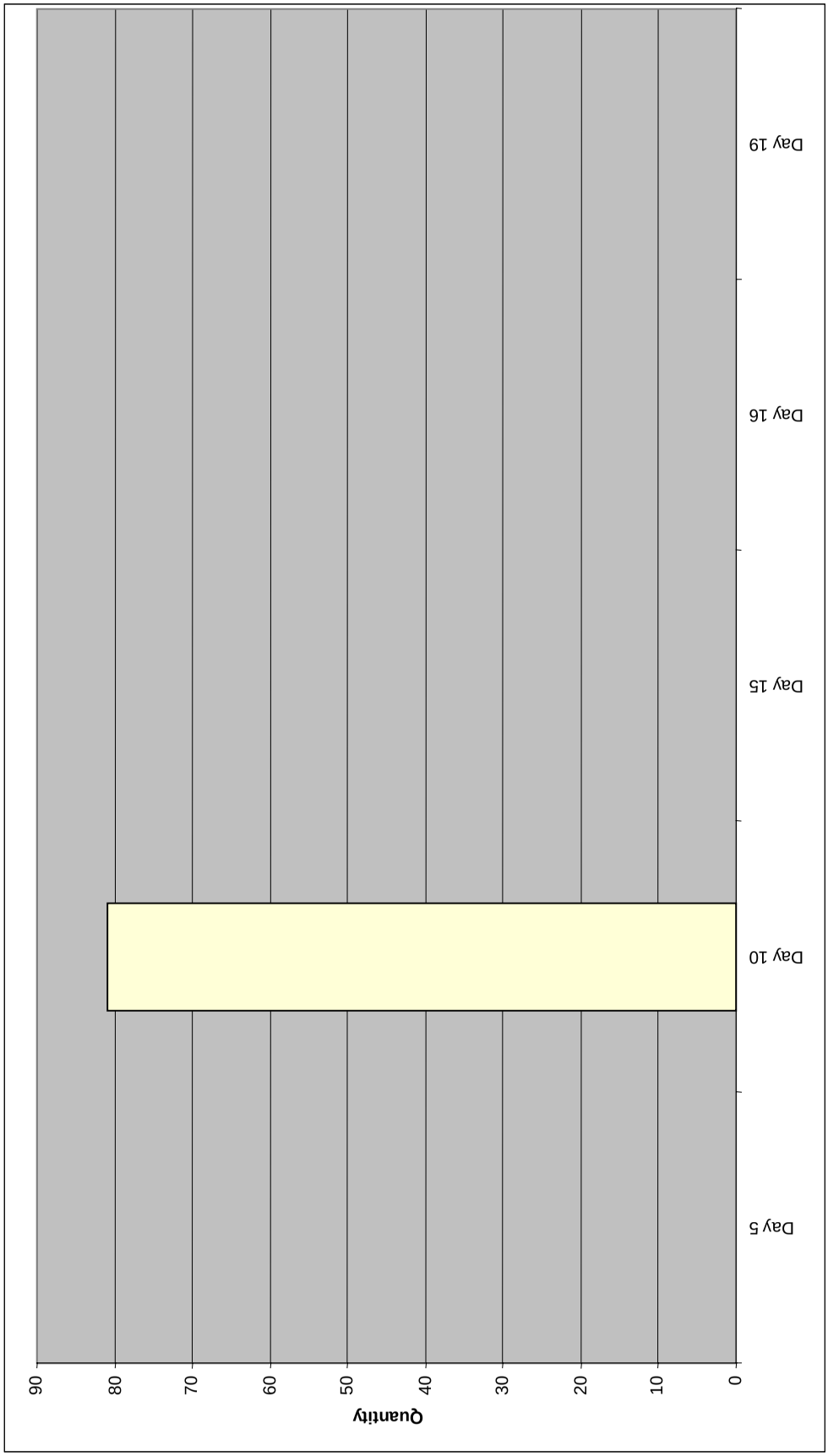

Figure D-22. Quantity of Aircraft Self-Deploying to the Port of Morehead City

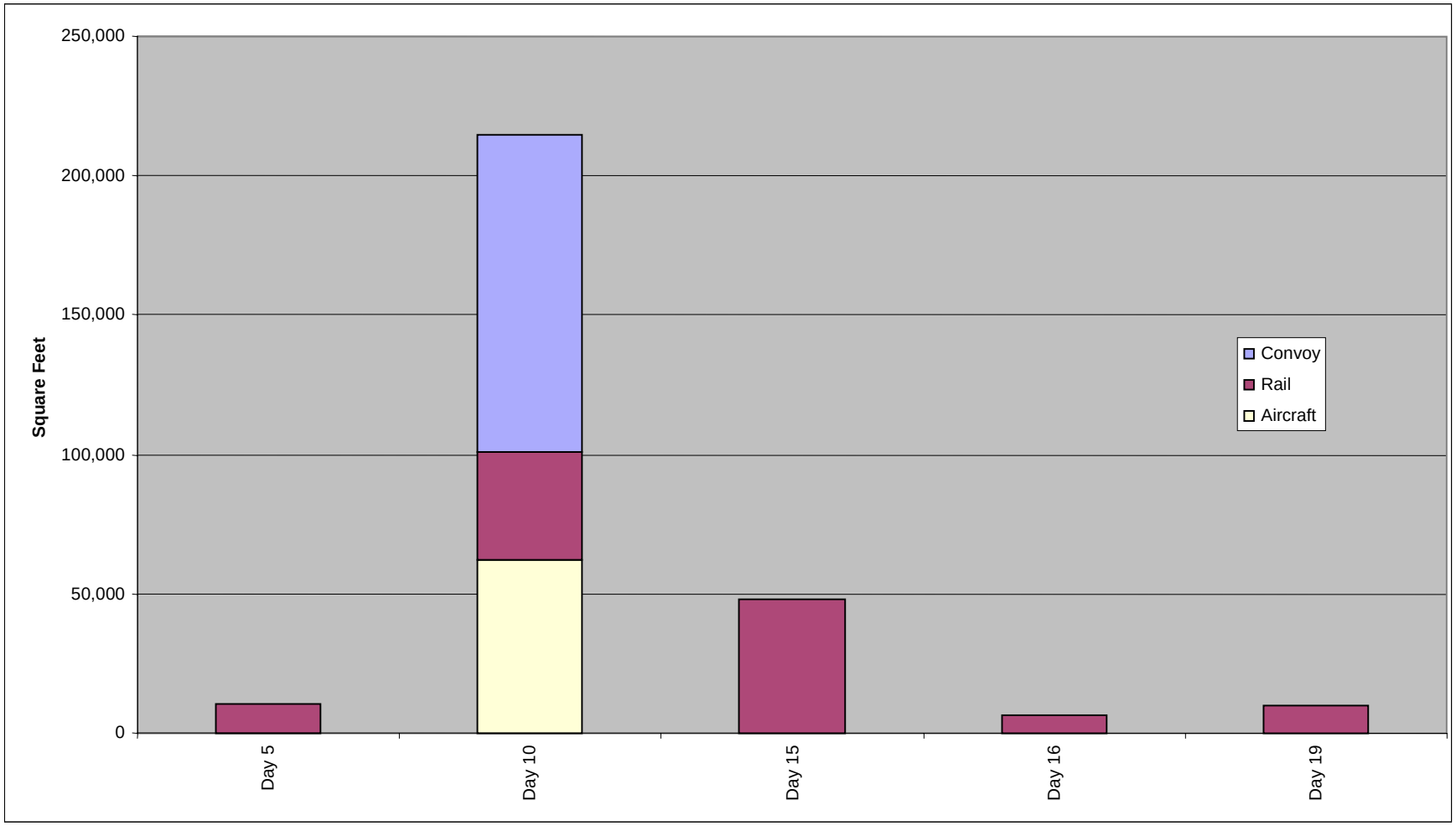

Figure D-23. Square Feet of Cargo Items Arriving by Mode tothe Port of Morehead City

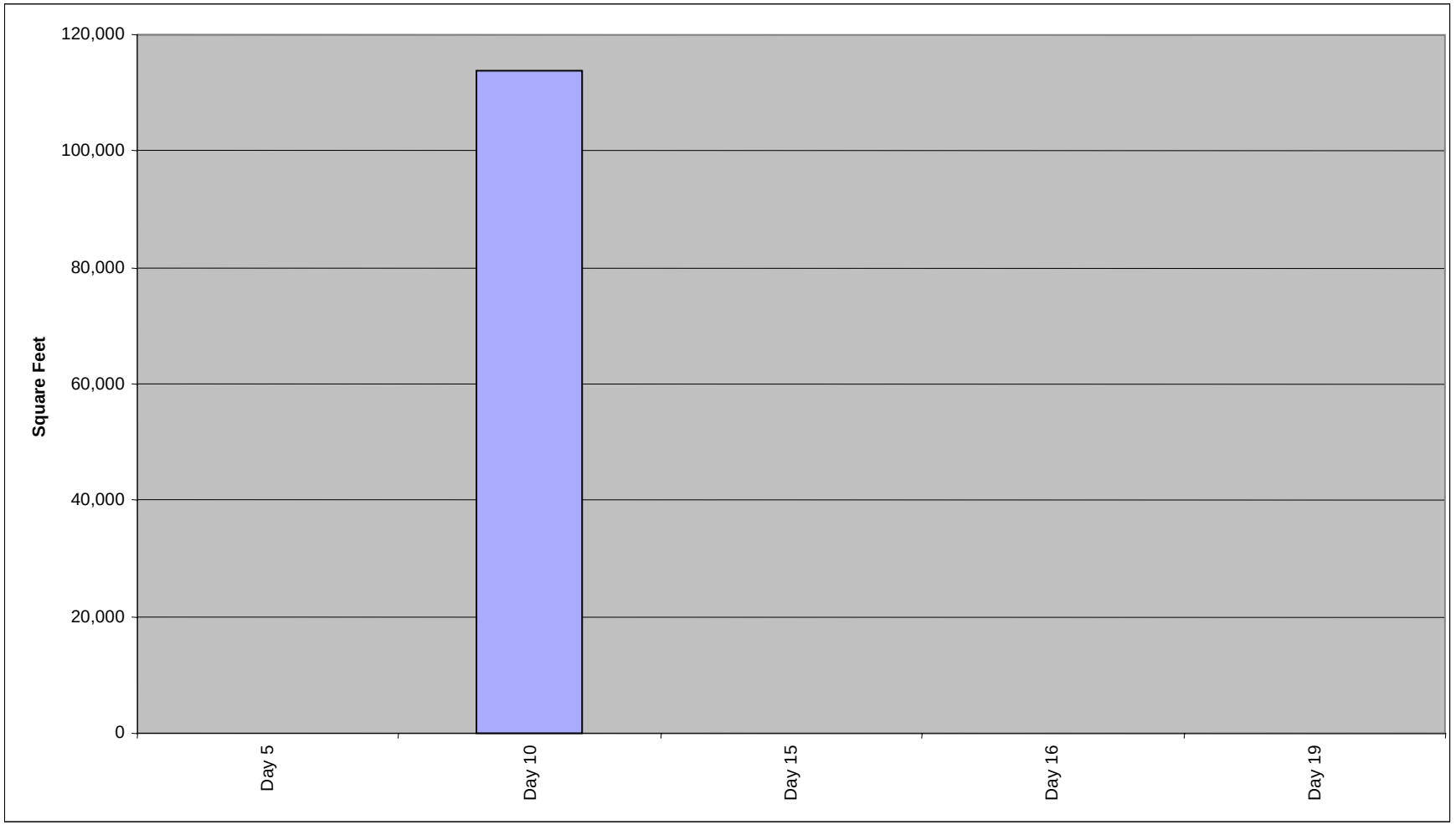

Figure D-24. Square Feet of Wheeled Vehicles Convoying to the Port of Morehead City

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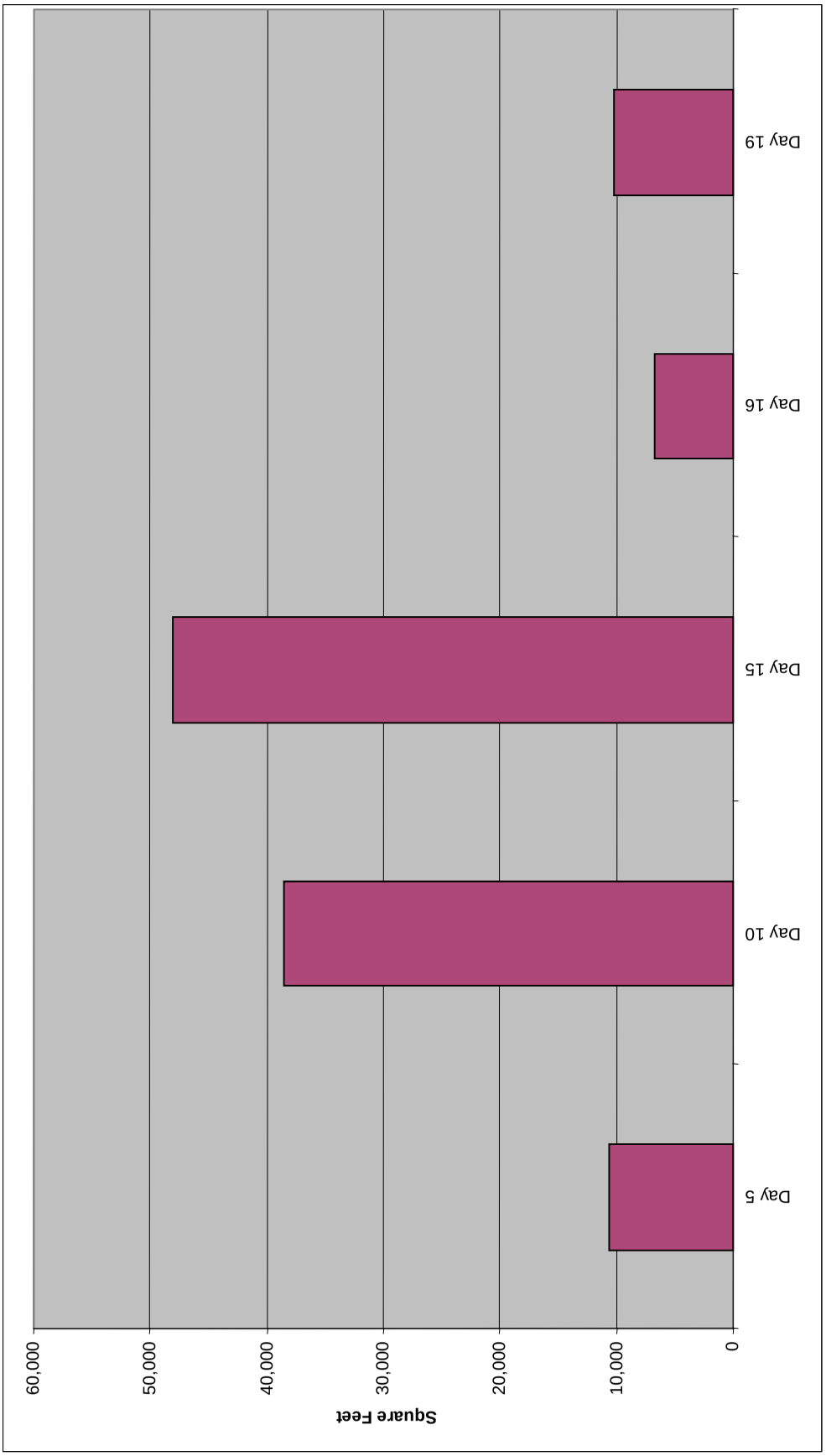

Figure D-25. Square Feet of Cargo Items Arriving by Rail to the Port of Morehead City

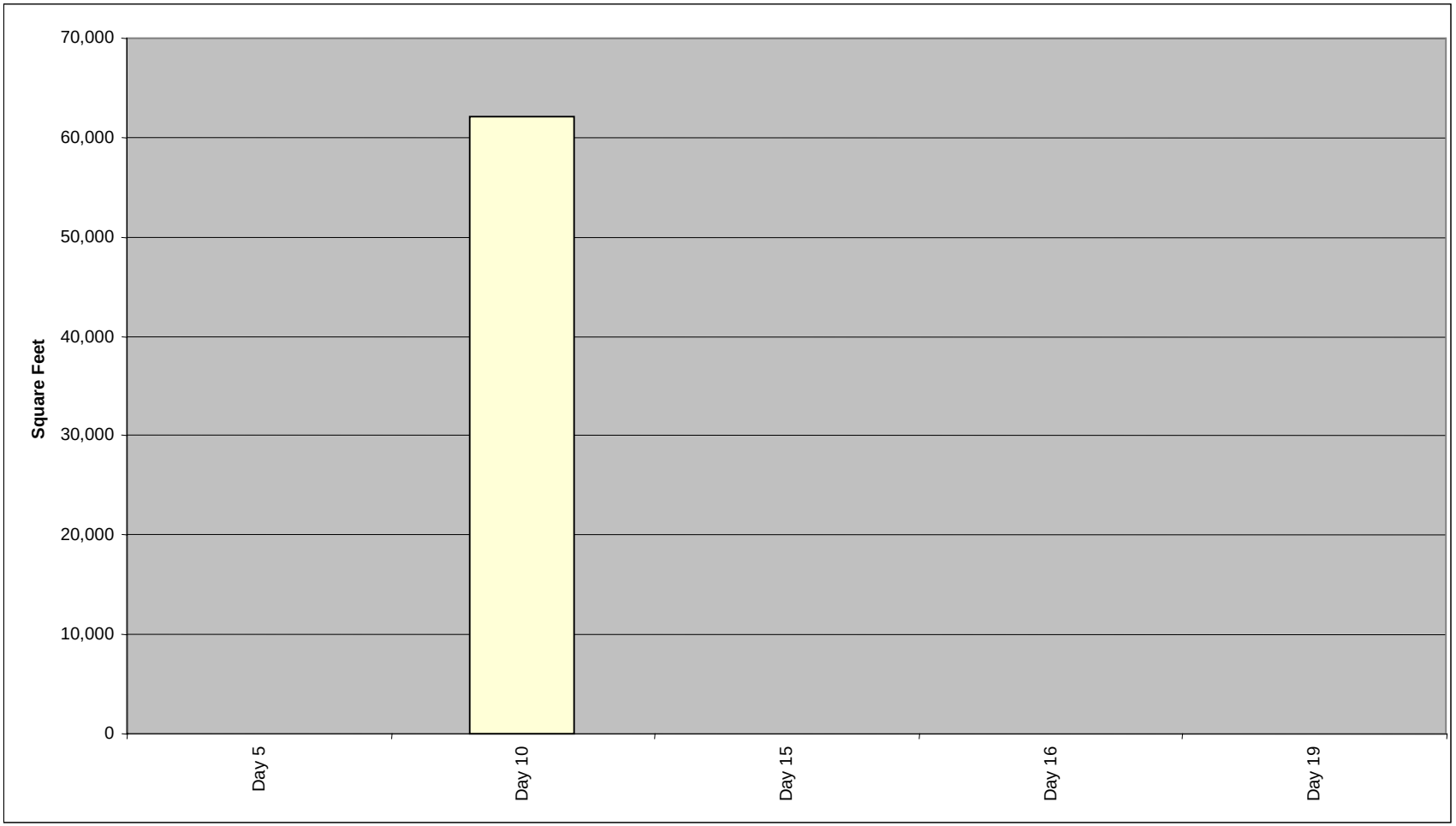

Figure D-26. Square Feet of Aircraft Self-Deploying to the Port of Morehead City

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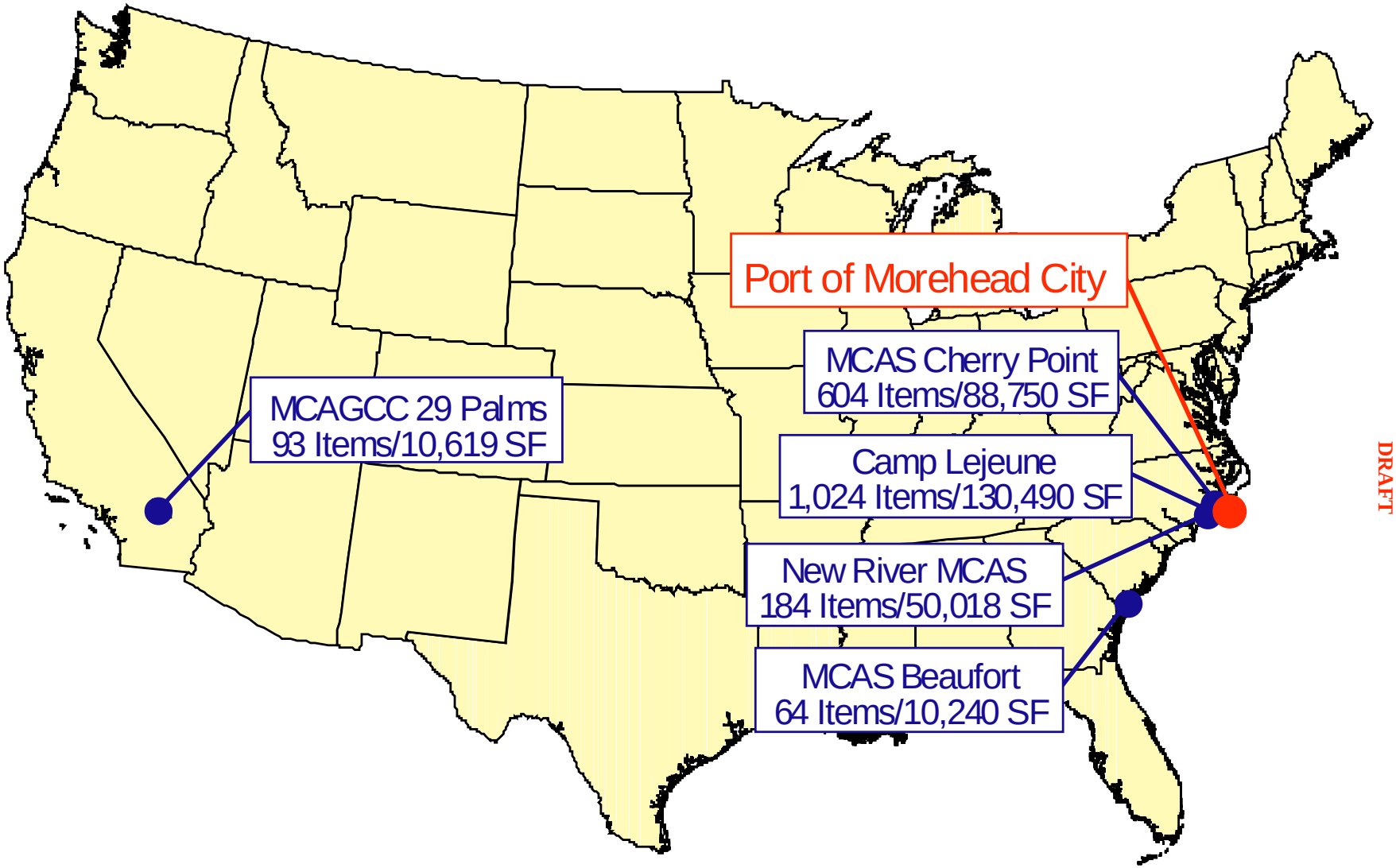

Figure D-27. Amount of Cargo Arriving at the Port of Morehead City by Origin

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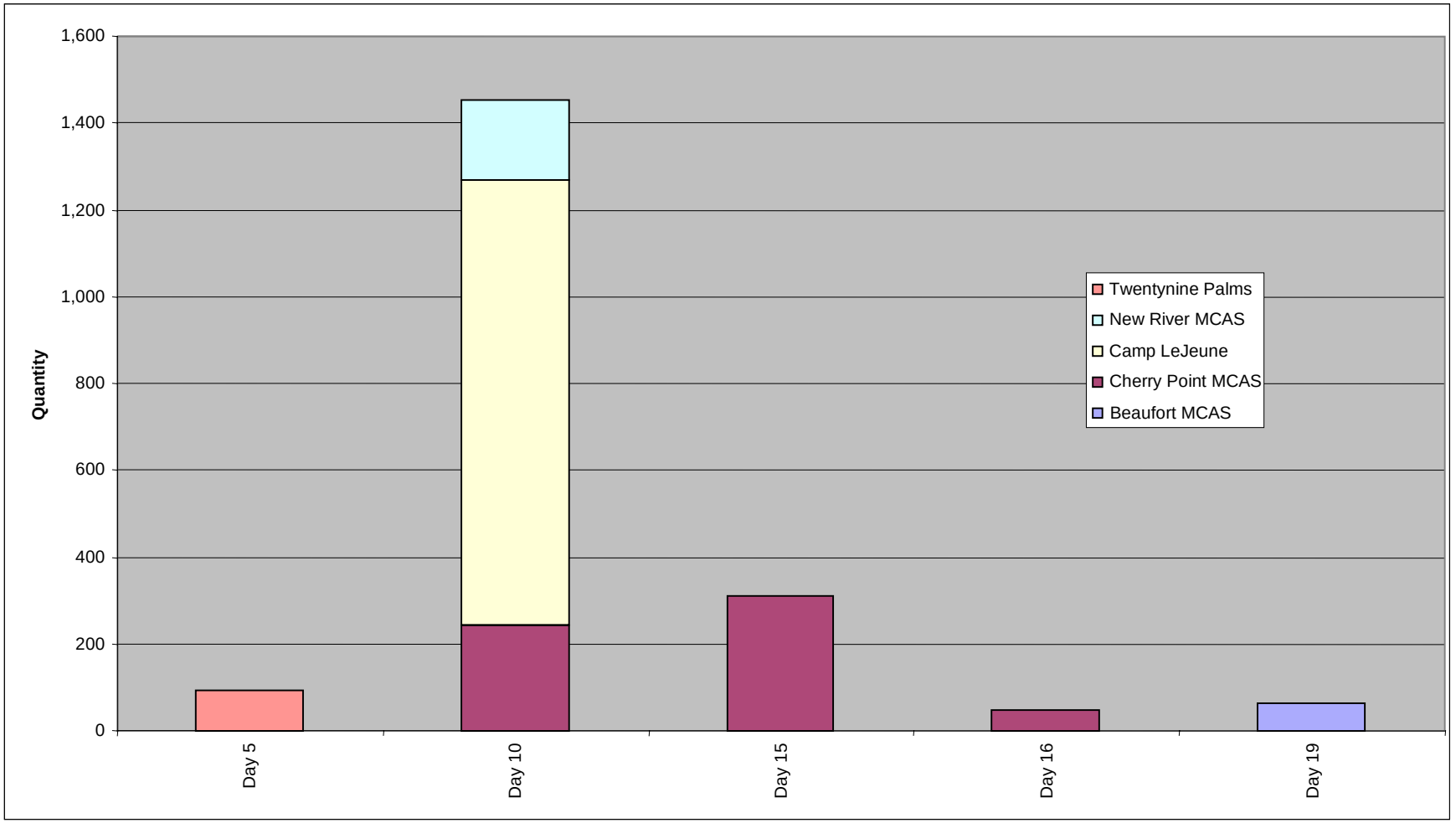

Figure D-28. Quantity of Items Arriving at the Port of Morehead City by Origin

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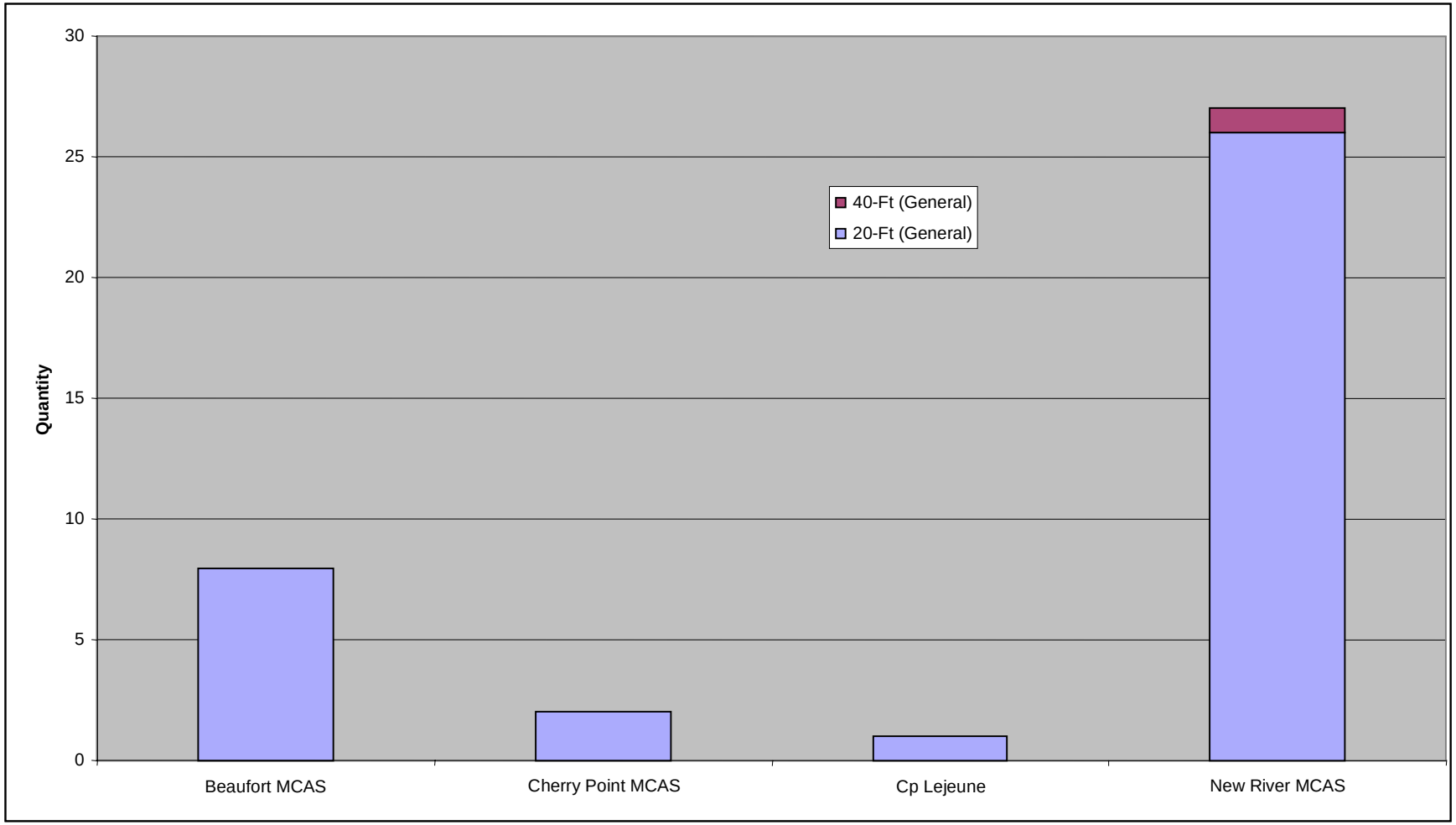

Figure D-29. Quantity of Containers Arriving at the Port of Morehead City by Origin

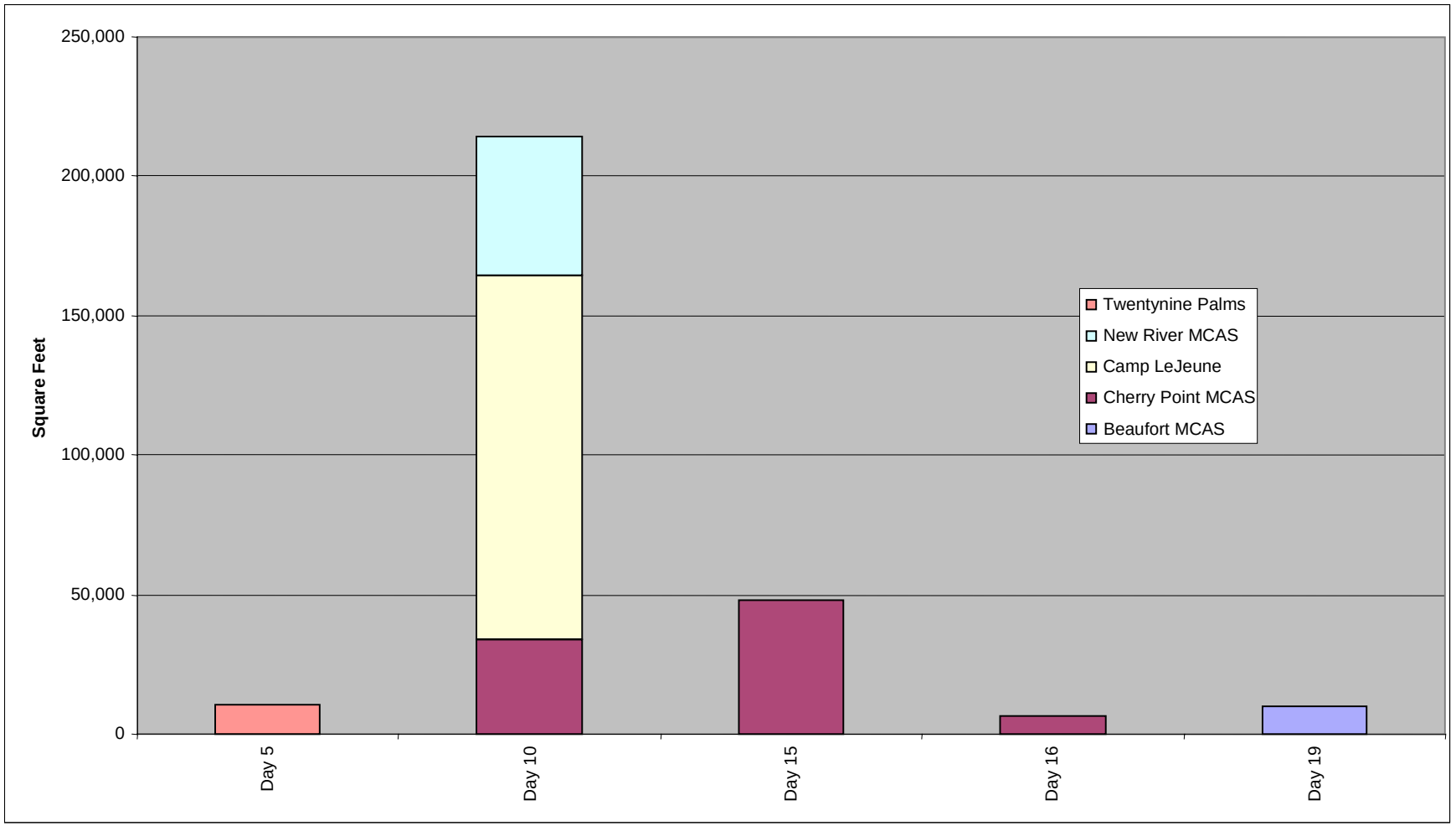

Figure D-30. Square Feet of Cargo Arriving at the Port of Morehead City by Origin

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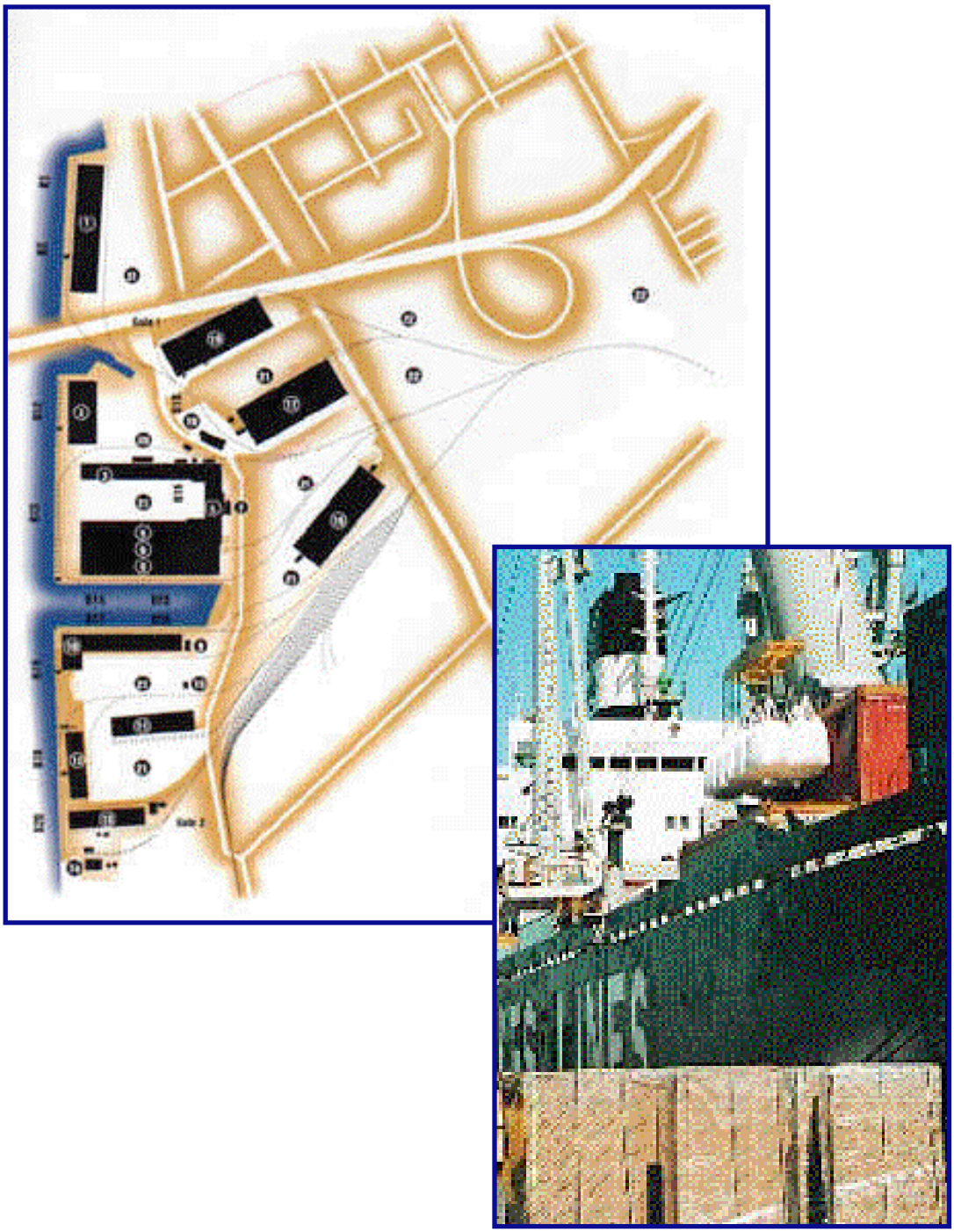
APPENDIX E

PORT OF SAVANNAH



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According to the TPFDD, there are over 50 origins sending cargo to the Port of Savannah. The major origins are shown in Figure E-1. Origins sending less than 50 items are listed in Table E-1. The Port of Savannah receives mostly Army cargo, with some Navy, Air Force, and Marine Corps cargo. Origins in excess of 400 miles send all of their cargo to the Port Savannah of by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. All aircraft self-deploy to the port. Figures E-2 through E-6 show the quantity of transports (containers, railcars, self-deploying aircraft, and convoying vehicles) required to move to the Port of Savannah.

Figures E-7 through E-13 illustrate the quantity of items arriving at the port. Figure E-7 is the total quantity of items. Figures E-8 through E-13 break this down into more detail. Figures E-8 and E-9 are the quantity of vehicles arriving at the port. Figure E-8 outlines the wheeled vehicles and Figure E-9 lays out the tracked vehicles. Figure E-10 shows the quantity of aircraft arriving at the port. These are mostly helicopters, and all self move to the port under their own power. Figure E-11 is the number of floating craft arriving at the Port of Savannah. Figures E-12 and E-13 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures E-7 through E-13, which lay out the quantity of items arriving, Figure E-14 through E-20 outline the square footage of these categories of cargo.

Figures E-21 through E-28 show how cargo is arriving at the Port of Savannah. Figure E-21 through E-24 shows the number of cargo items arriving by convoy, rail, or self-deploying. Figures E-25 through E-28 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Savannah from many origins. Figure E-29 shows visually the amount of cargo coming from the major origins.

Figures E-30 and E-32 show the quantity and square footage, respectively, of cargo arriving at the Port of Savannah by origin. Figure E-31 is the quantity of containers arriving at the Port of Savannah from each origin.

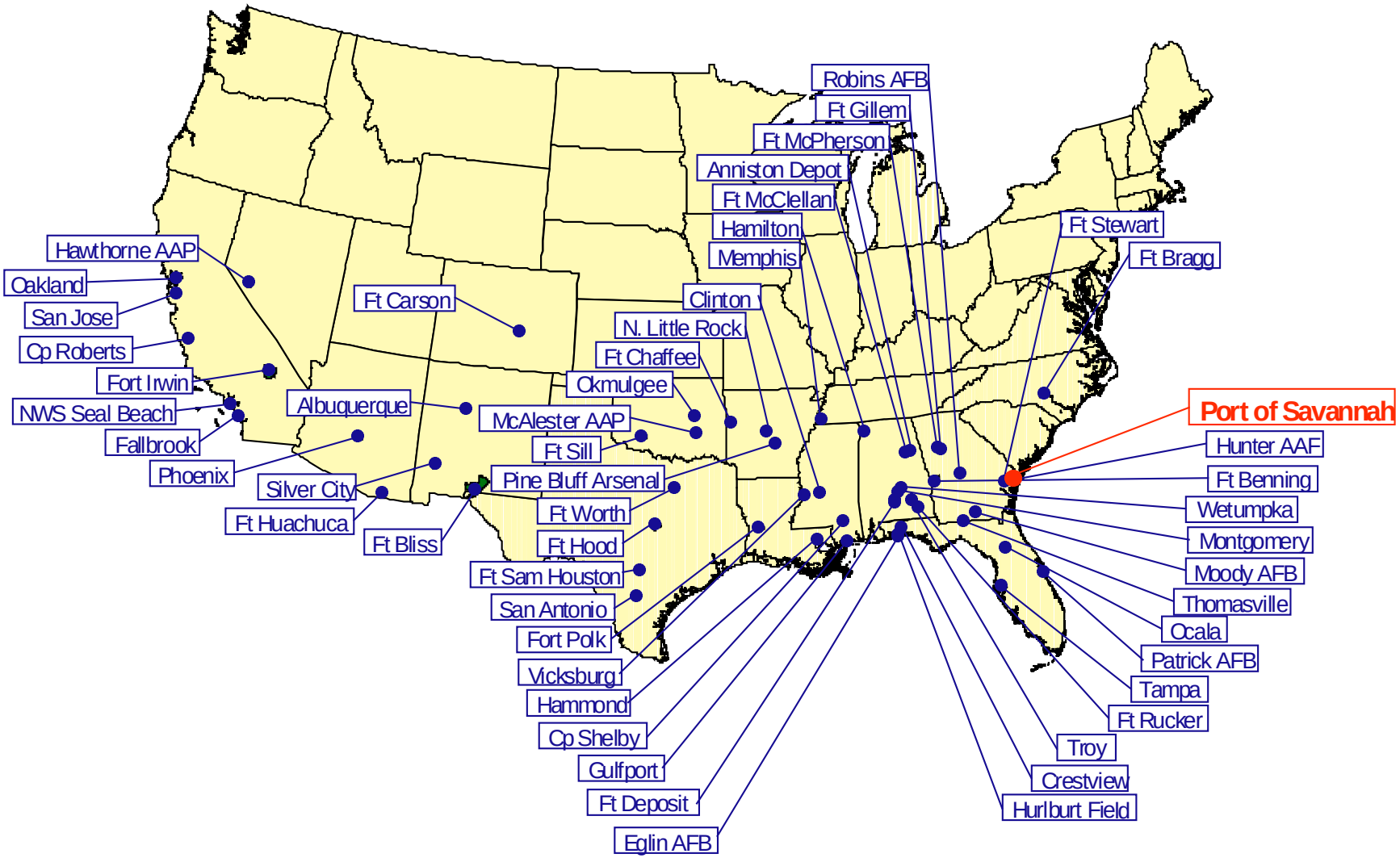


Figure E-1. Cargo Arrives at the Port of Savannah from Many Origins

Table E-1
Origins Sending Cargo to the Port of Savannah
(Origins not in Figure E-1)

Montgomery, AL
Concord NWS, GA
Fort Gillem, GA
Patrick AFB, FL
Pine Bluff Arsenal, AK
Anniston Army Depot, AL
Phoenix, AZ
Silver City, NM
Hammond, LA
Fallbrook, CA
Seal Beach NWS, CA

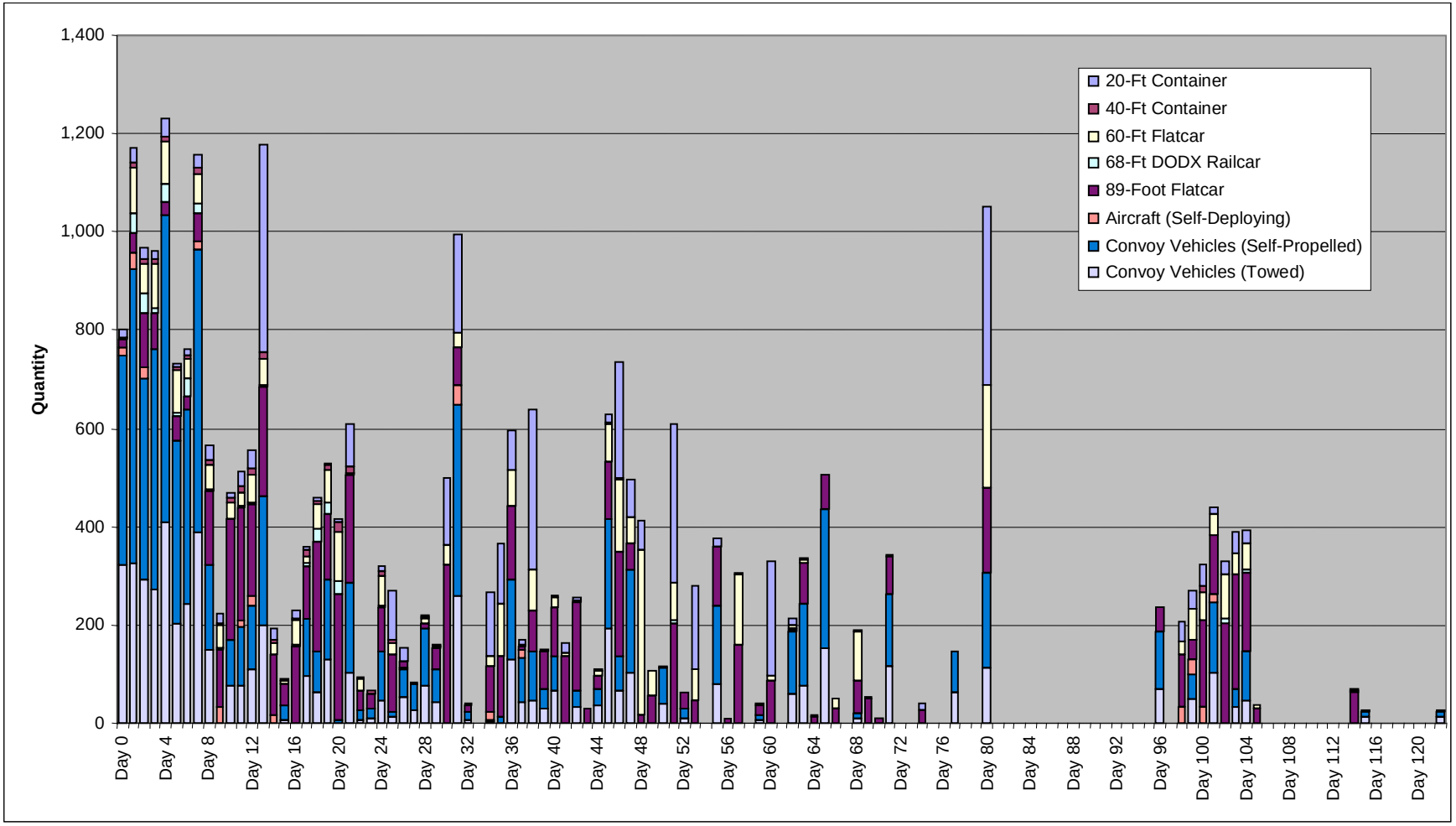


Figure E-2. Total Quantity of Transports Arriving at the Port of Savannah

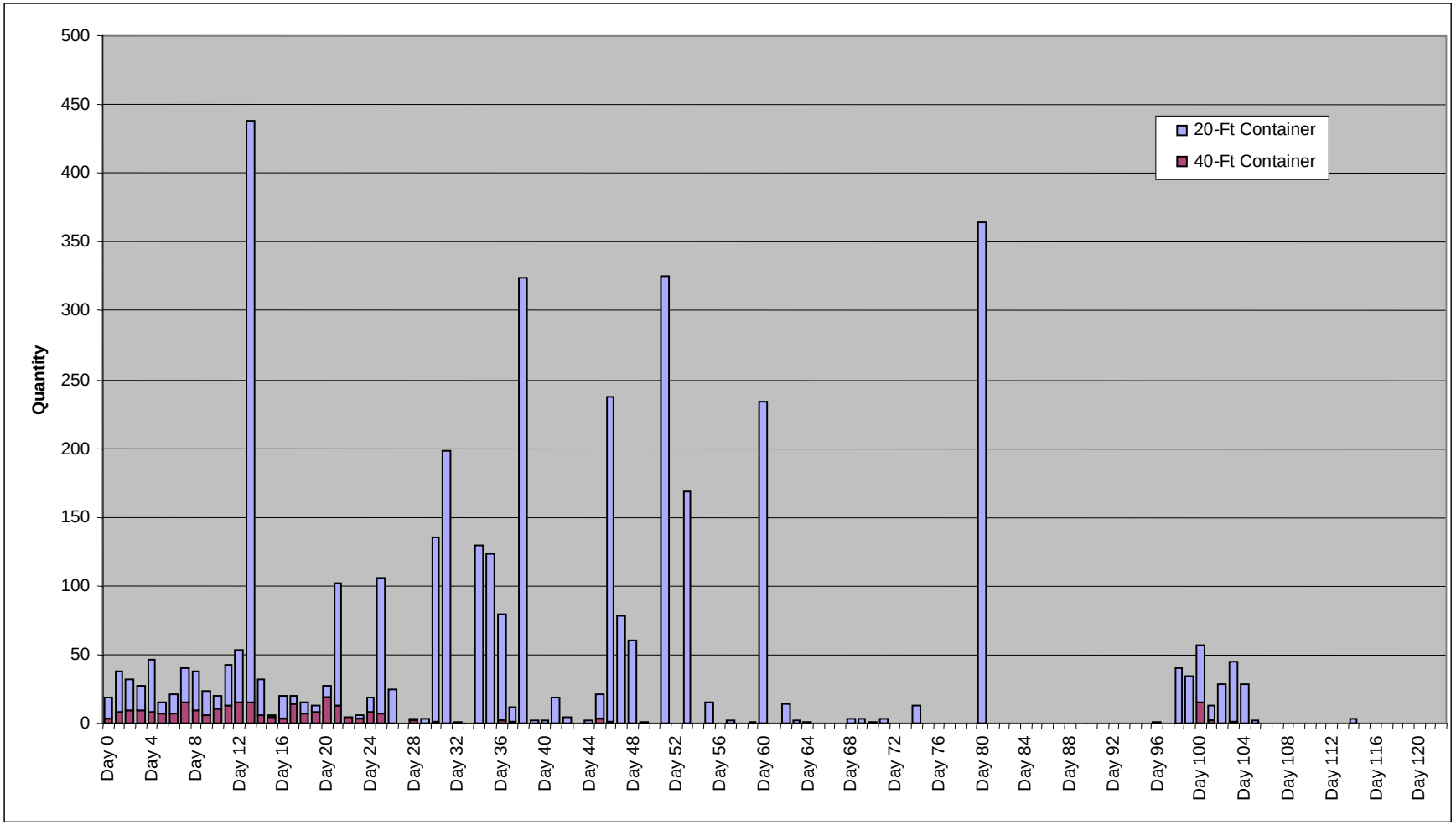


Figure E-3. Quantity of Containers Arriving at the Port of Savannah

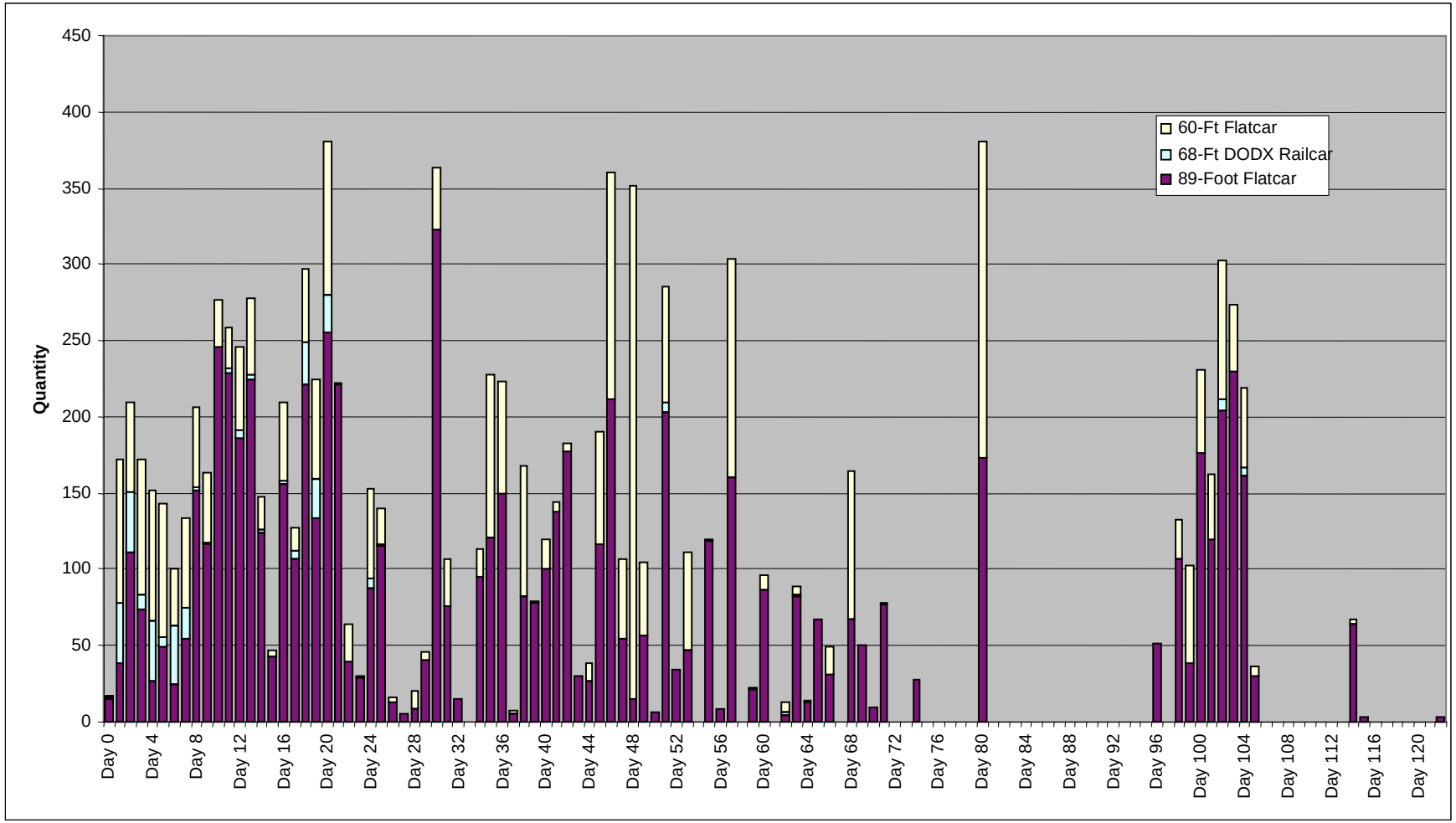


Figure E-4. Quantity of Railcars Arriving at the Port of Savannah

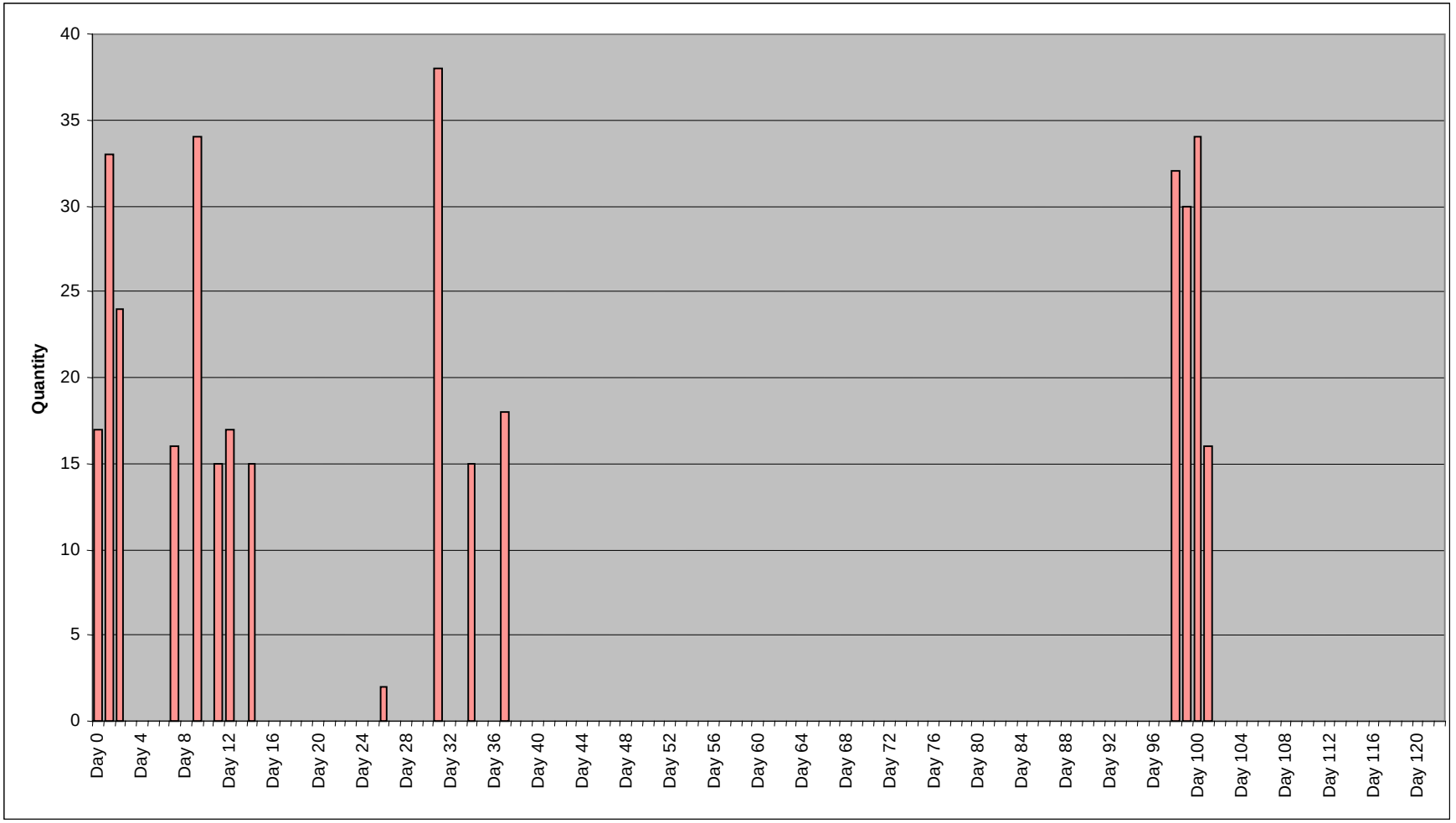


Figure E-5. Quantity of Aircraft Arriving at the Port of Savannah

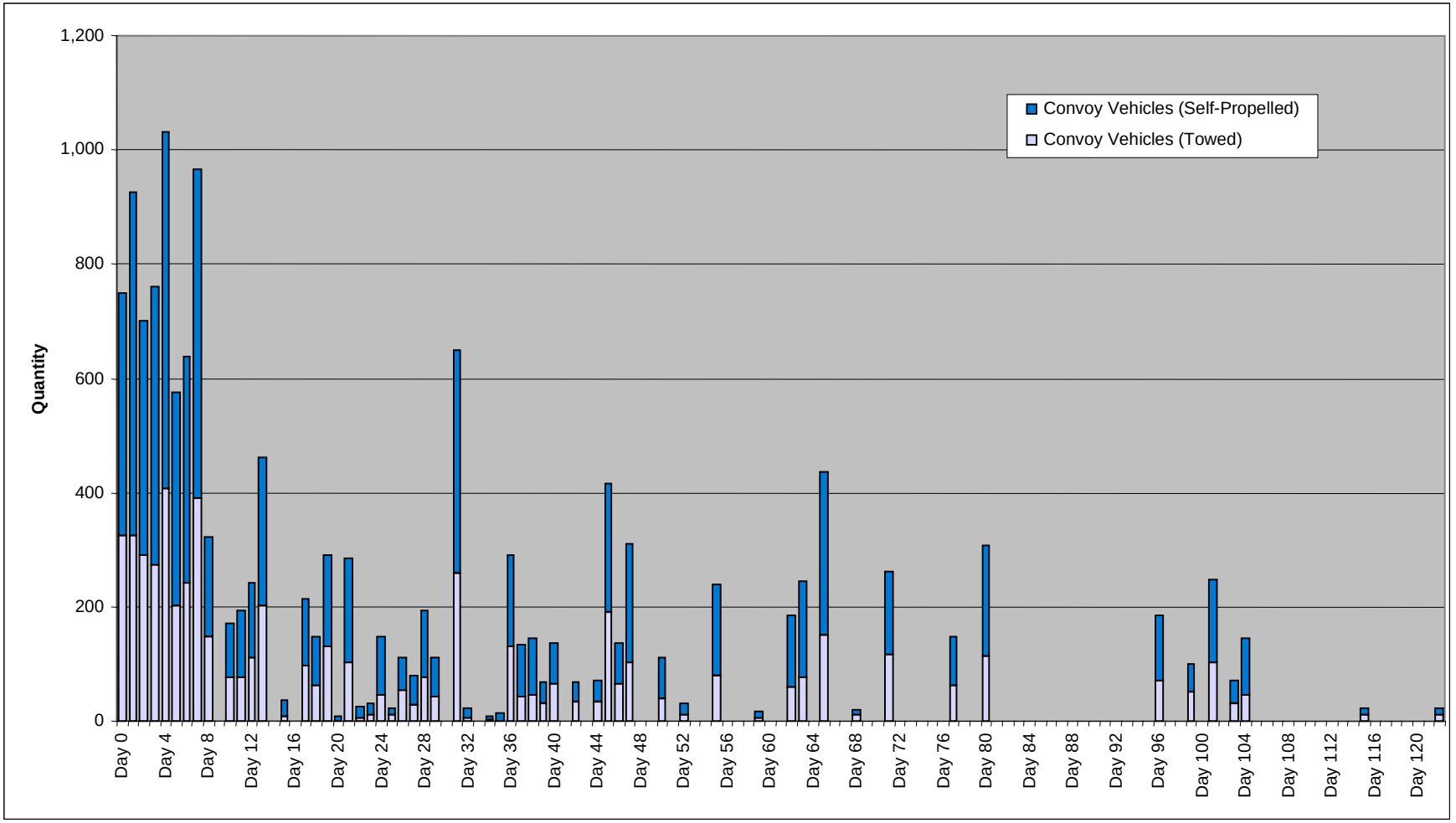


Figure E-6. Total Quantity of Convoy Vehicles Arriving at the Port of Savannah

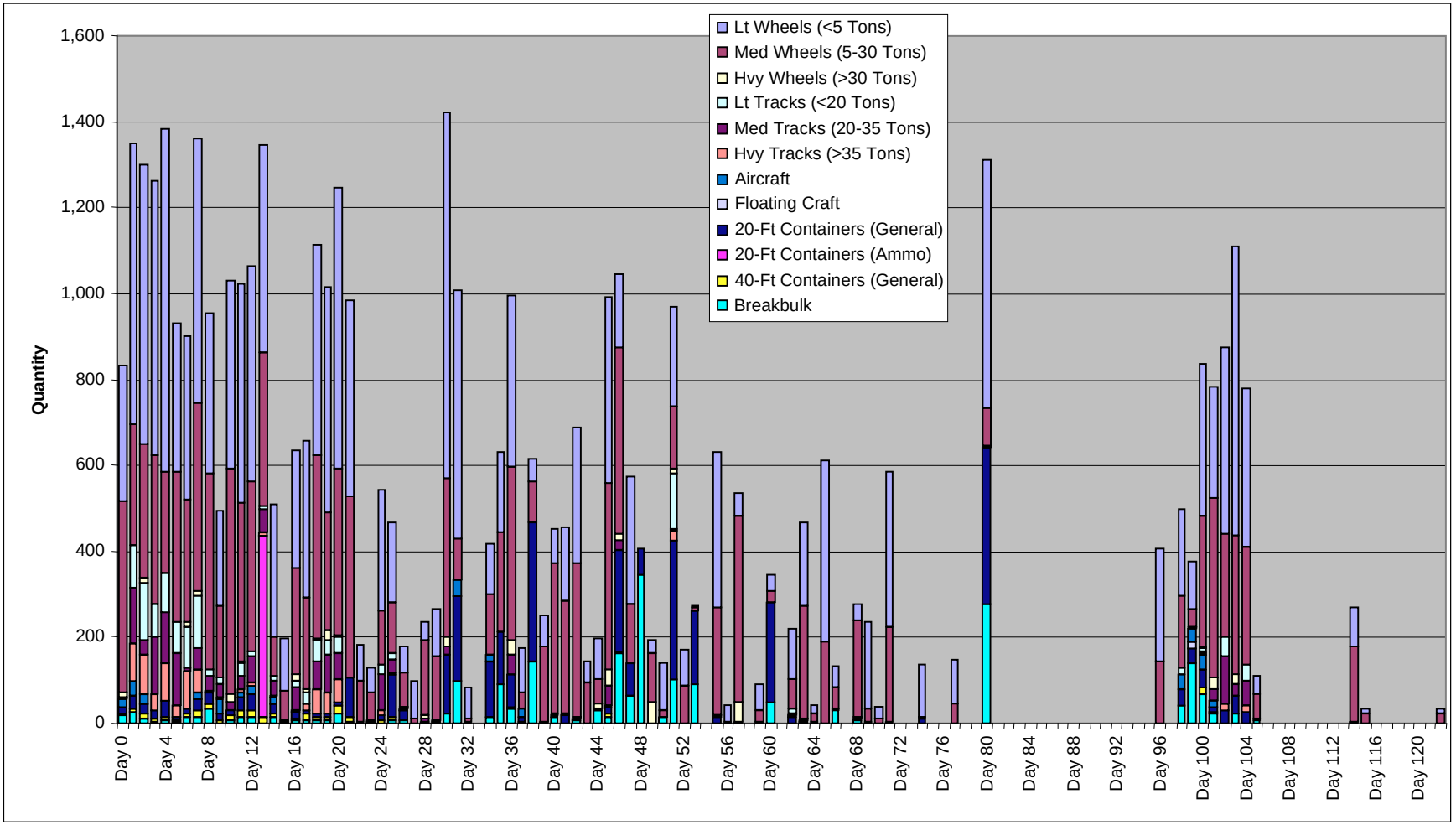


Figure E-7. Quantity of Items Arriving at the Port of Savannah

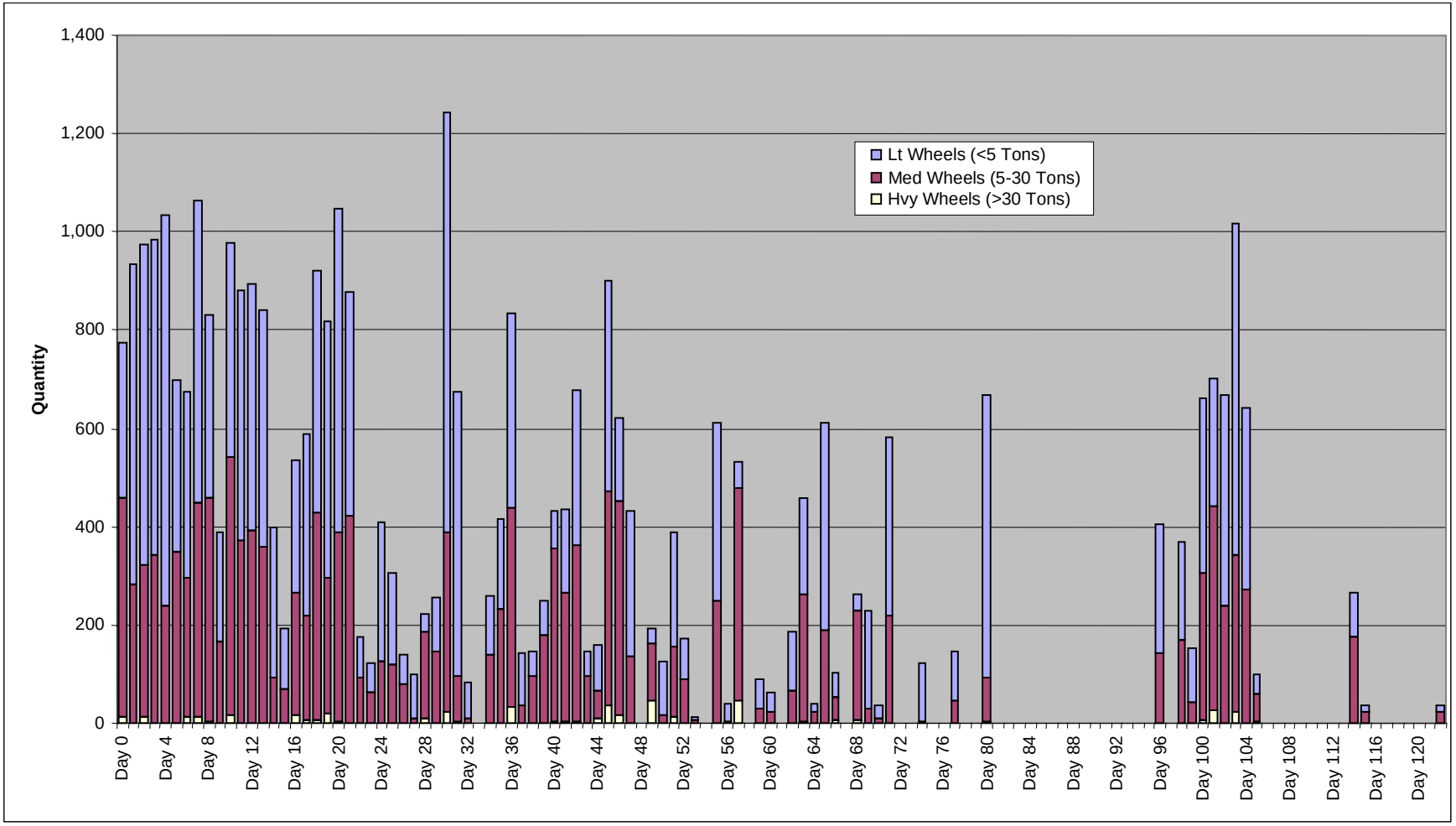


Figure E-8. Quantity of Wheeled Vehicles Arriving at the Port of Savannah

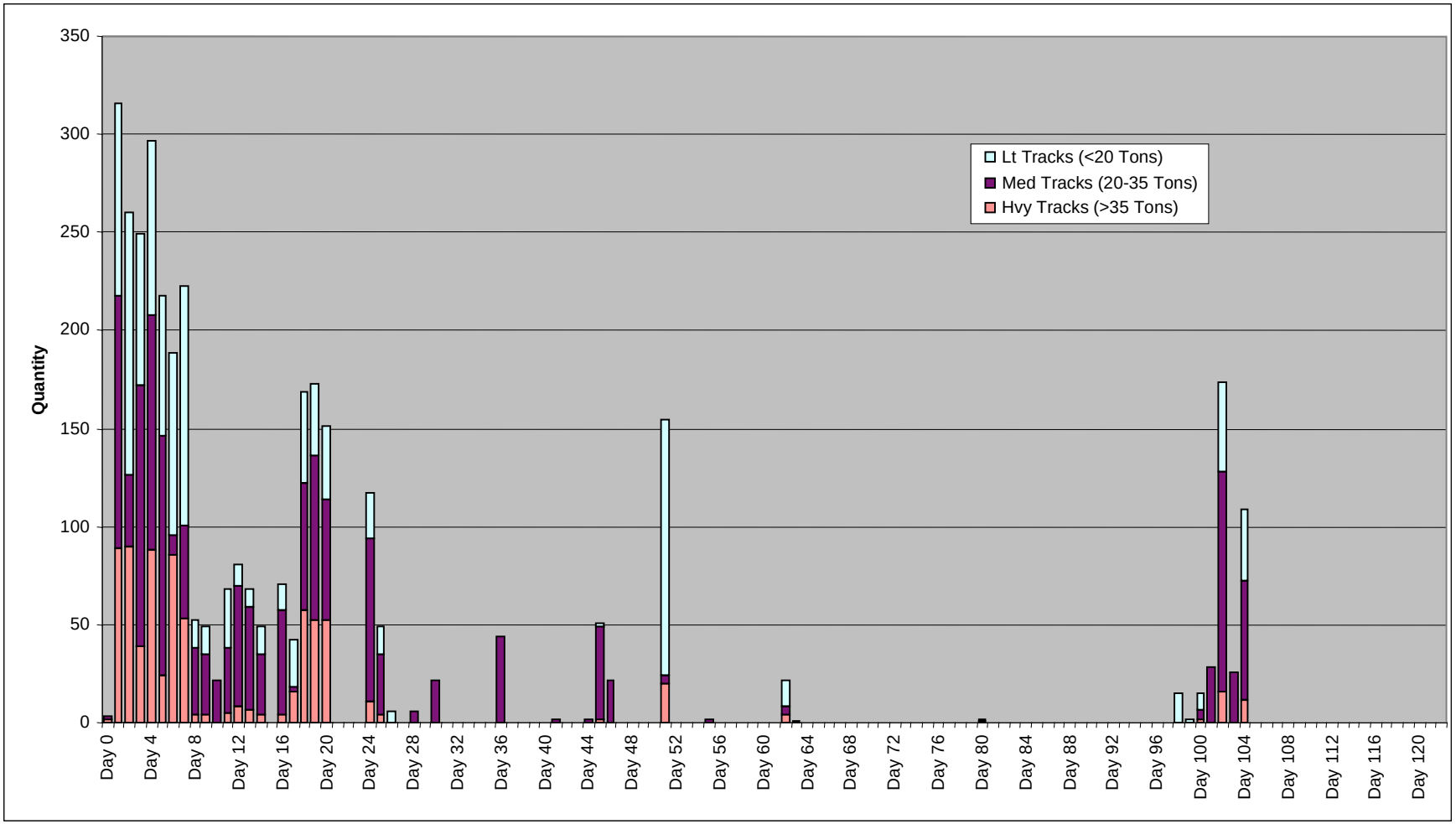


Figure E-9. Quantity of Tracked Vehicles Arriving at the Port of Savannah

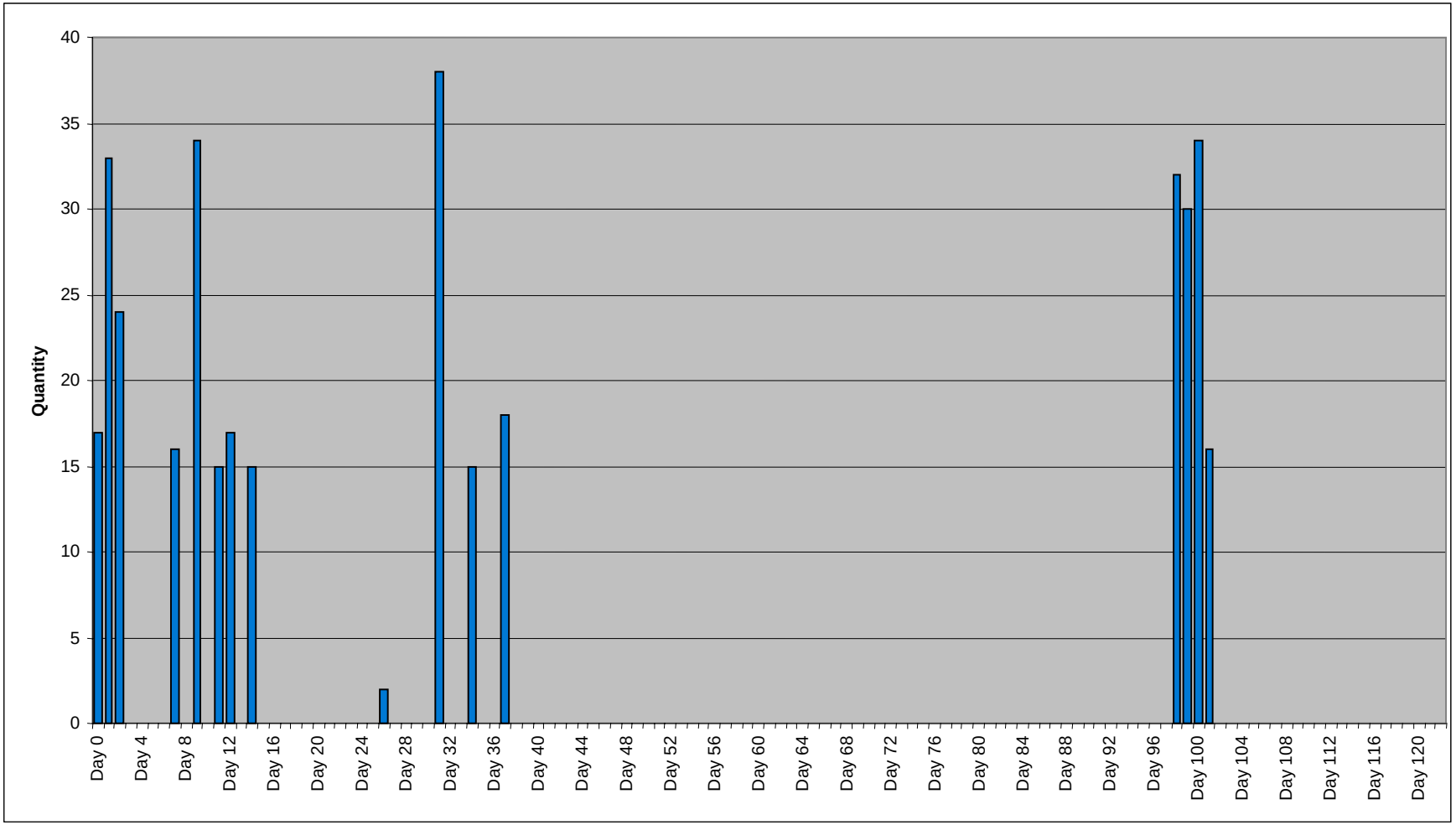


Figure E-10. Quantity of Aircraft Arriving at the Port of Savannah

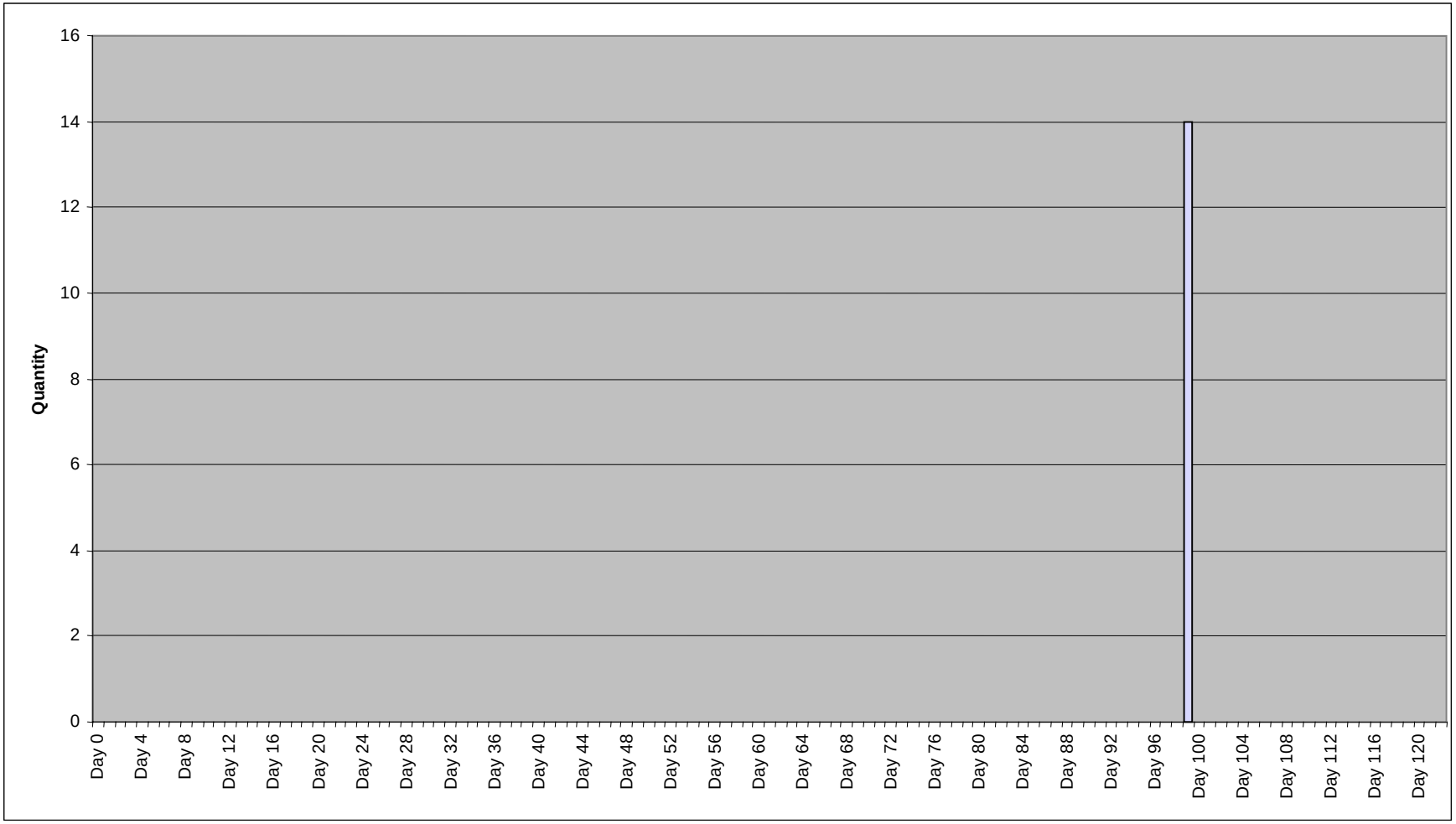


Figure E-11. Quantity of Floating Craft Arriving at the Port of Savannah

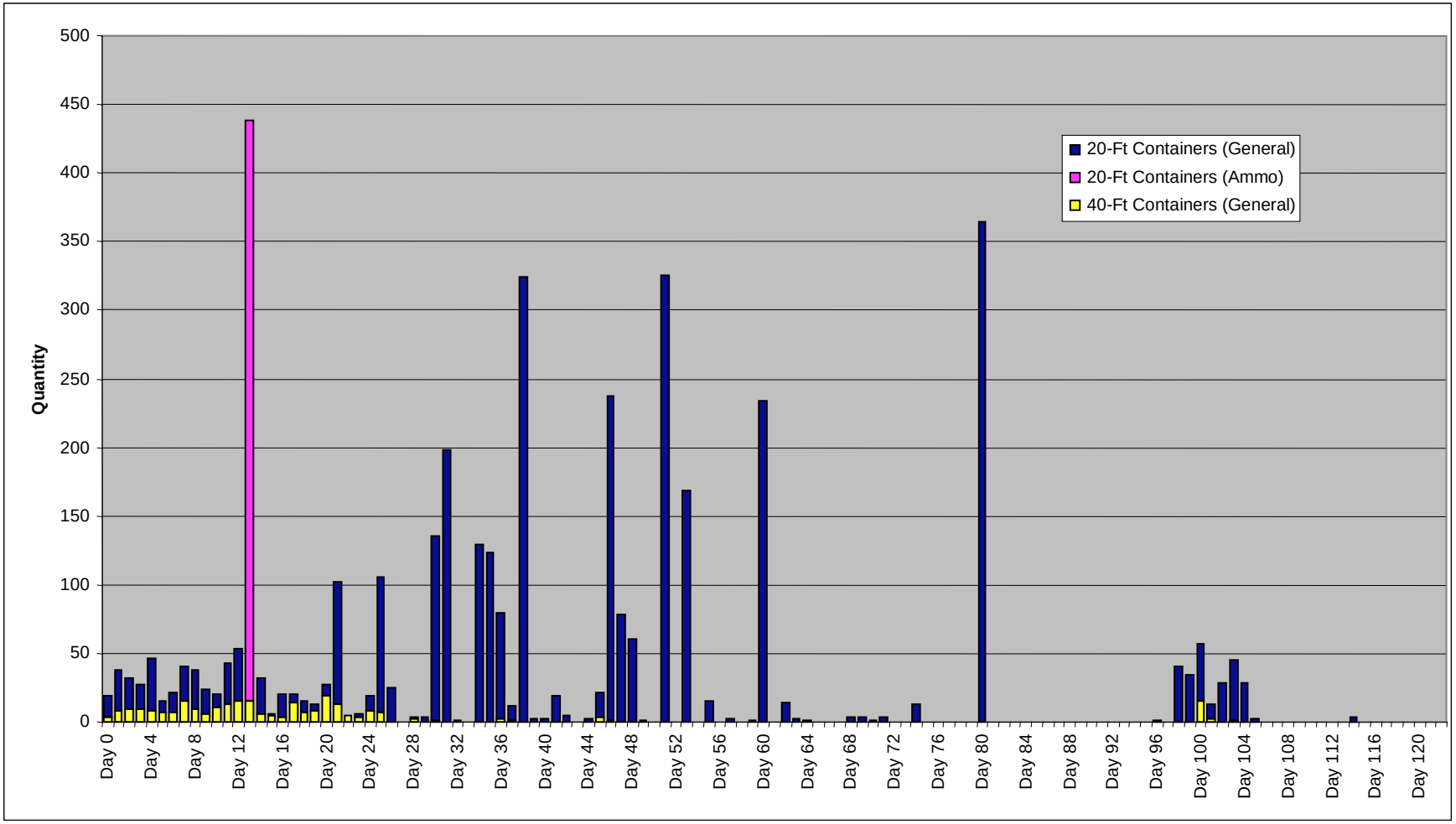


Figure E-12. Quantity of Containers Arriving at the Port of Savannah

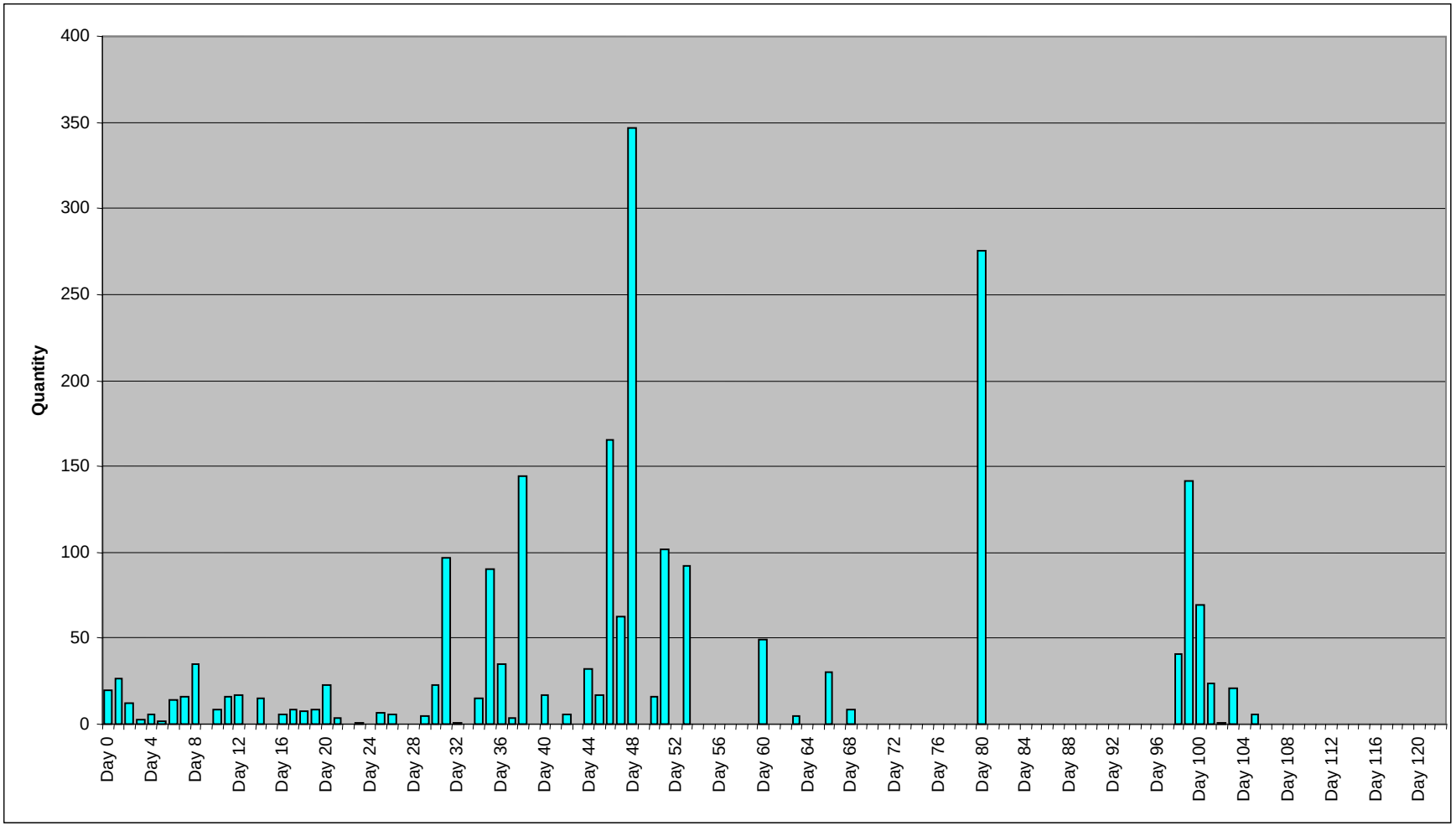


Figure E-13. Quantity of Breakbulk Cargo Items Arriving at the Port of Savannah

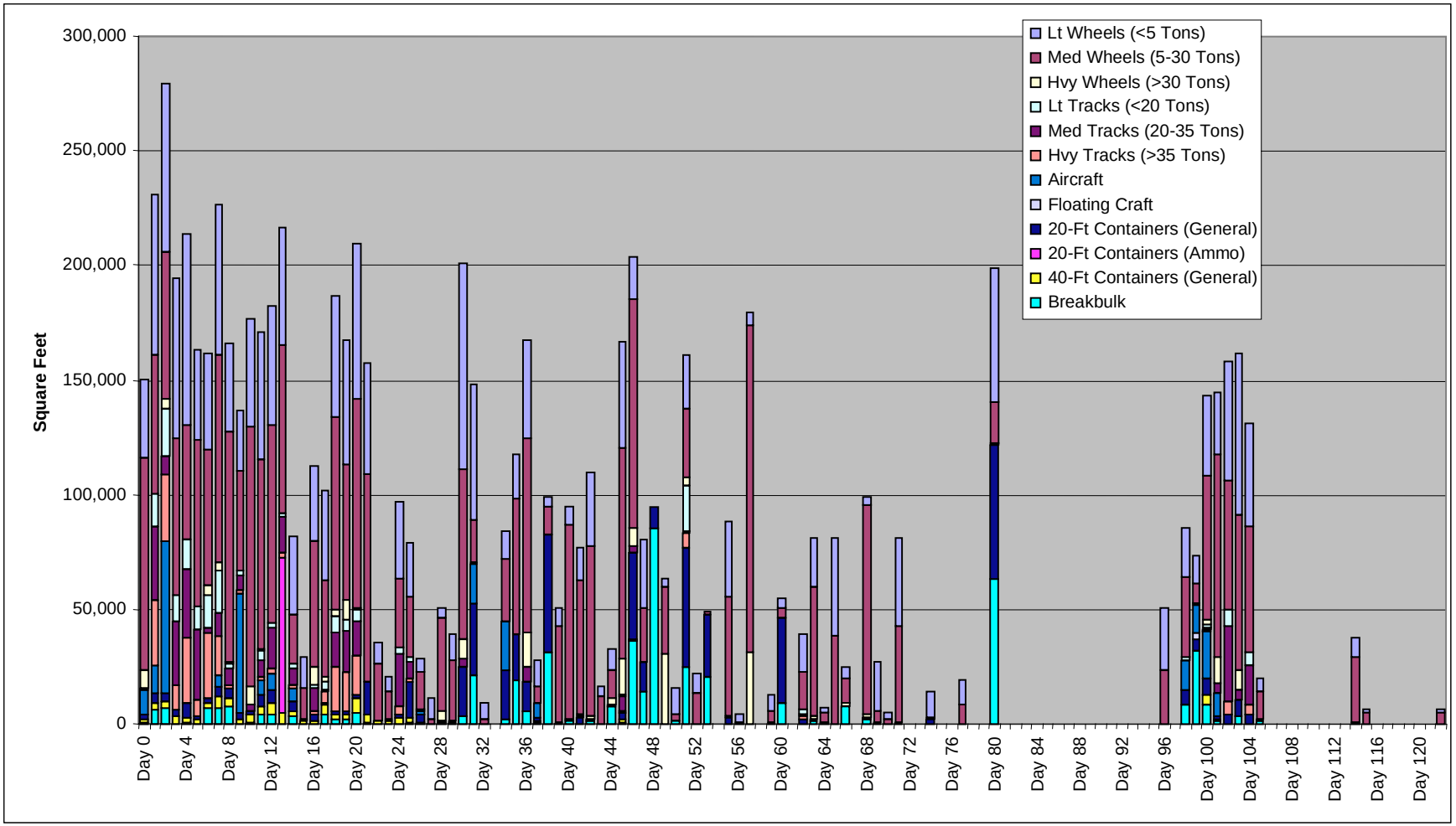


Figure E-14. Total Square Feet of Cargo Arriving at the Port of Savannah

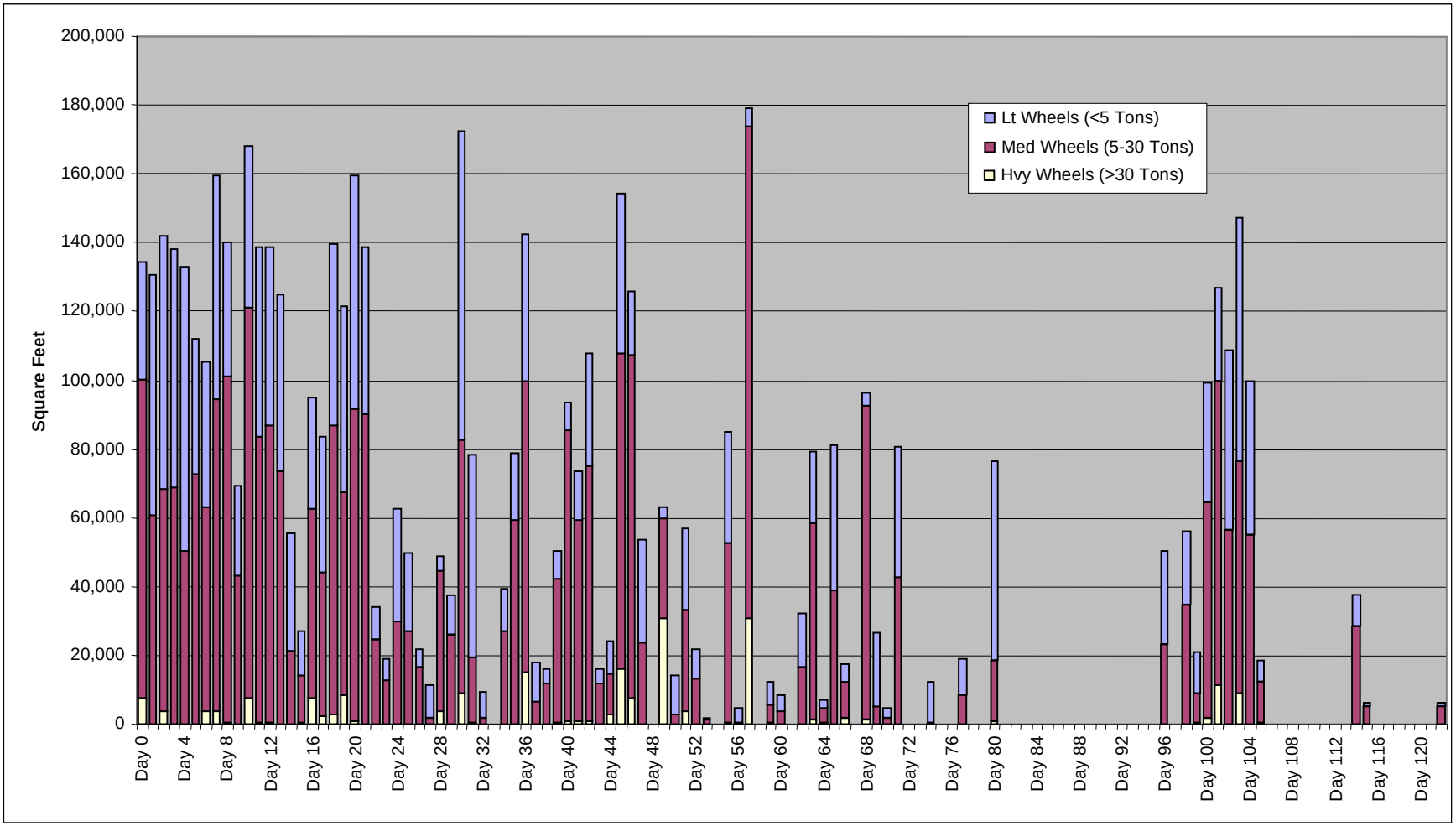


Figure E-15. Square Feet of Wheeled Vehicles Arriving at the Port of Savannah

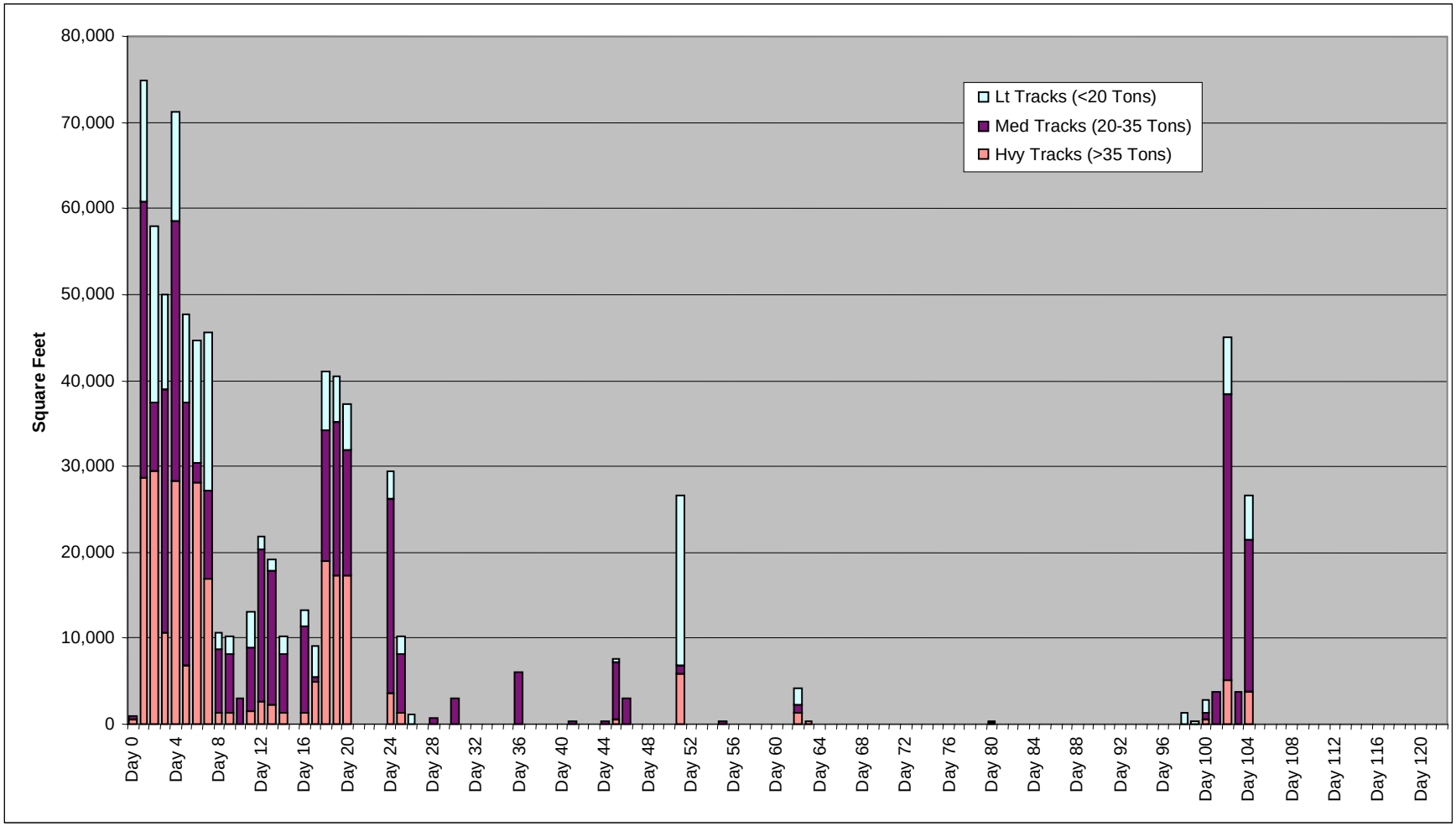


Figure E-16. Square Feet of Tracked Arriving at the Port of Savannah

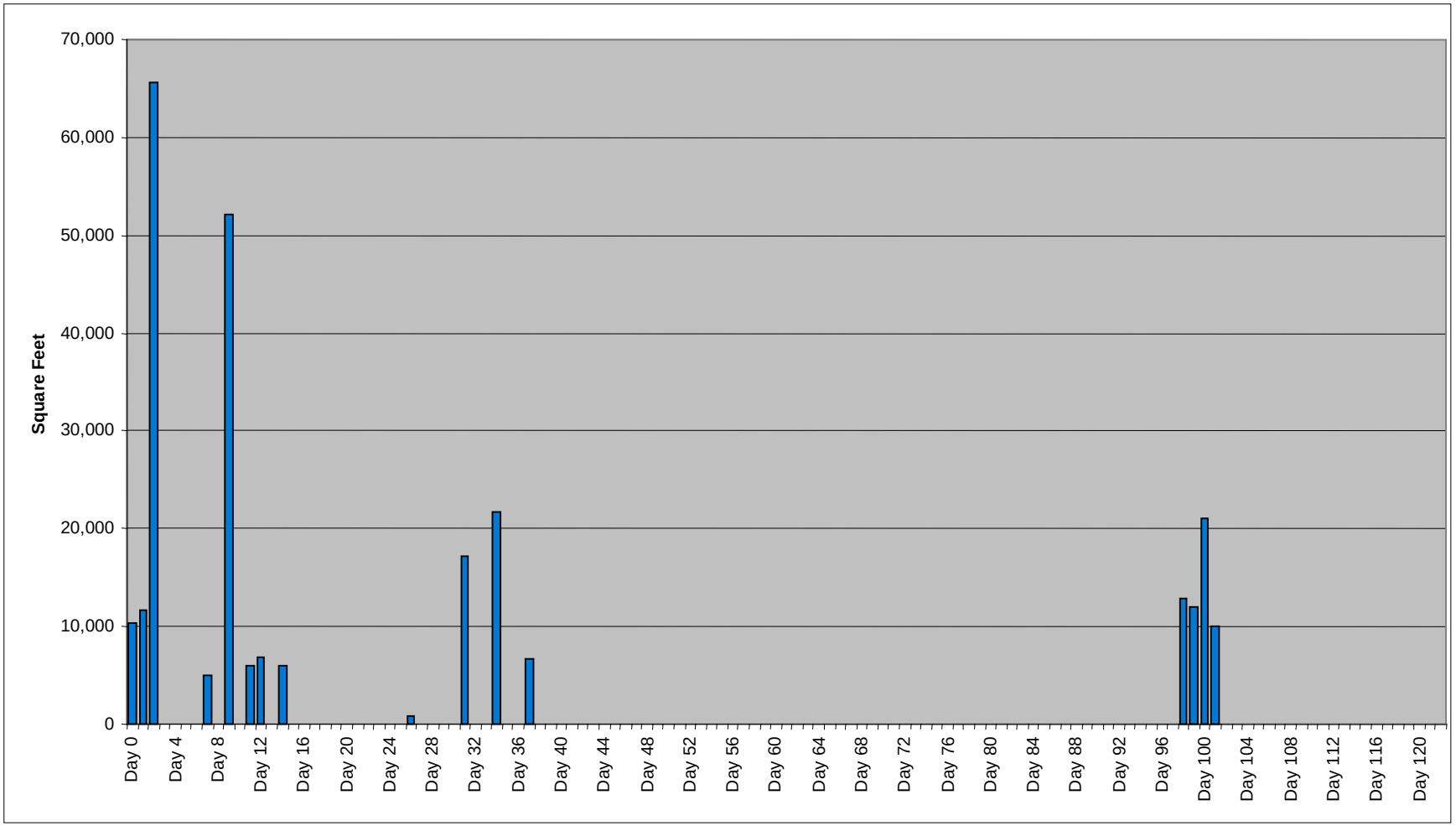


Figure E-17. Square Feet of Aircraft Arriving at the Port of Savannah

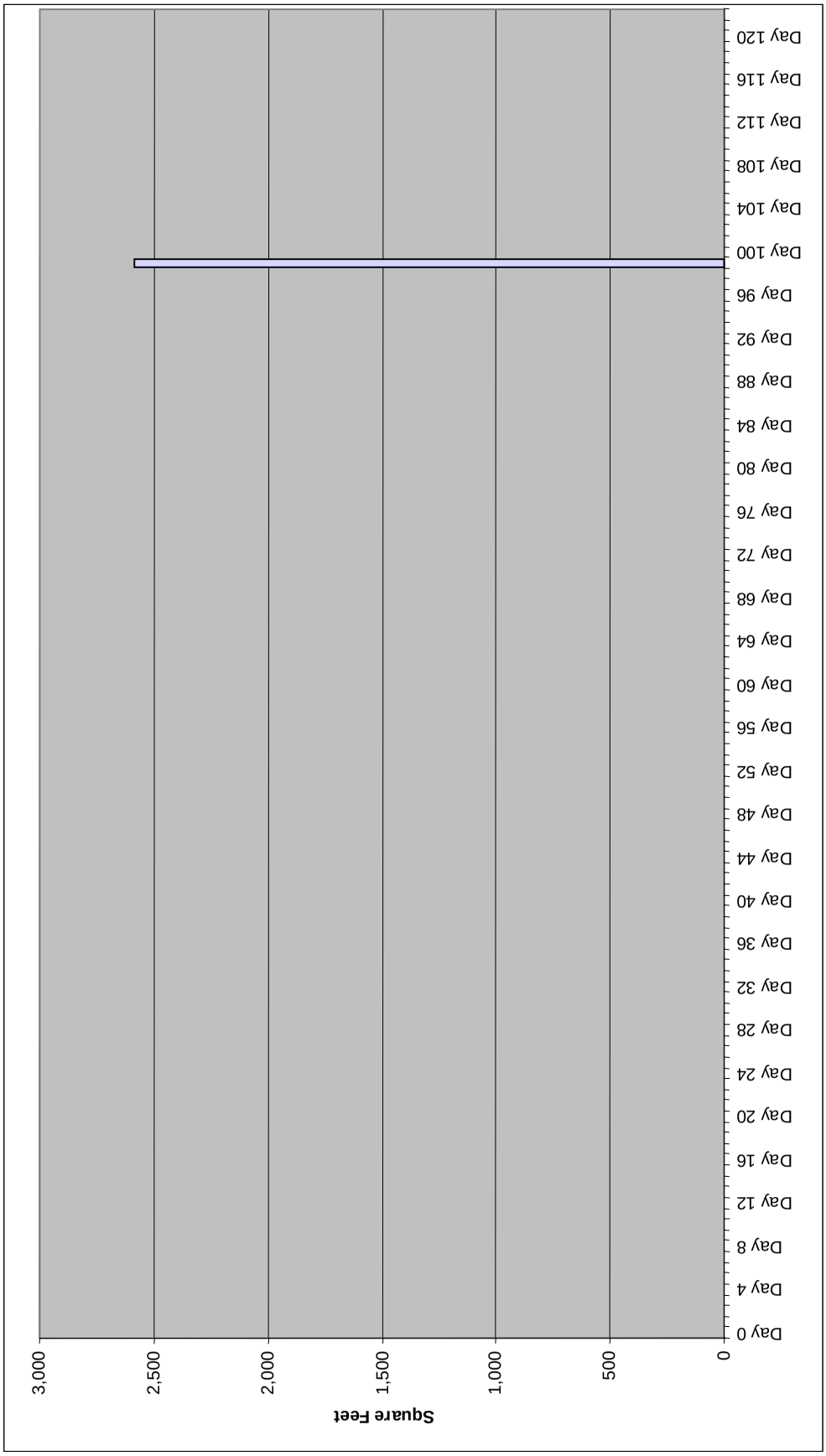


Figure E-18. Square Feet of Floating Craft Arriving at the Port of Savannah

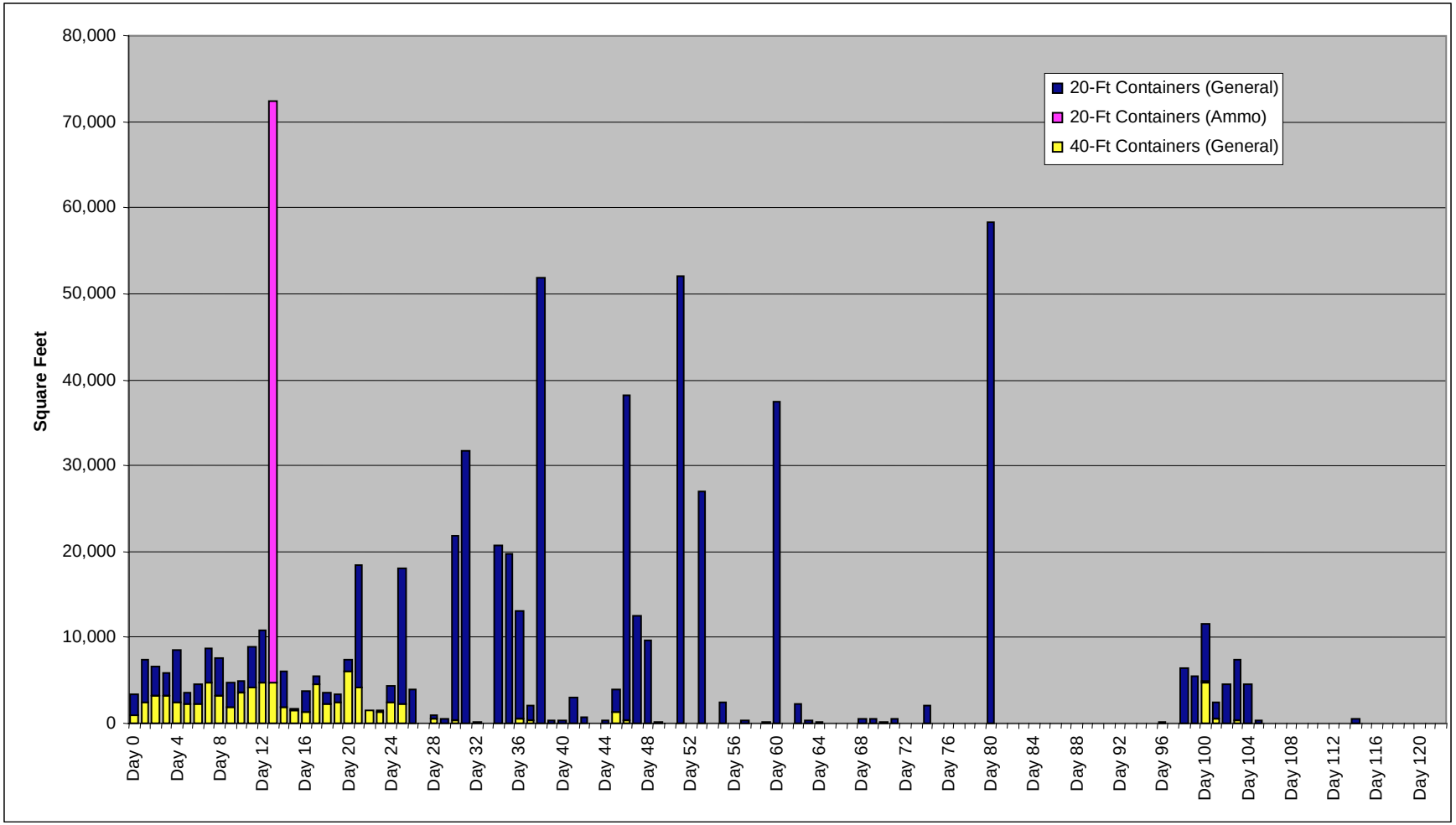


Figure E-19. Square Feet of Containers Arriving to the Port of Savannah

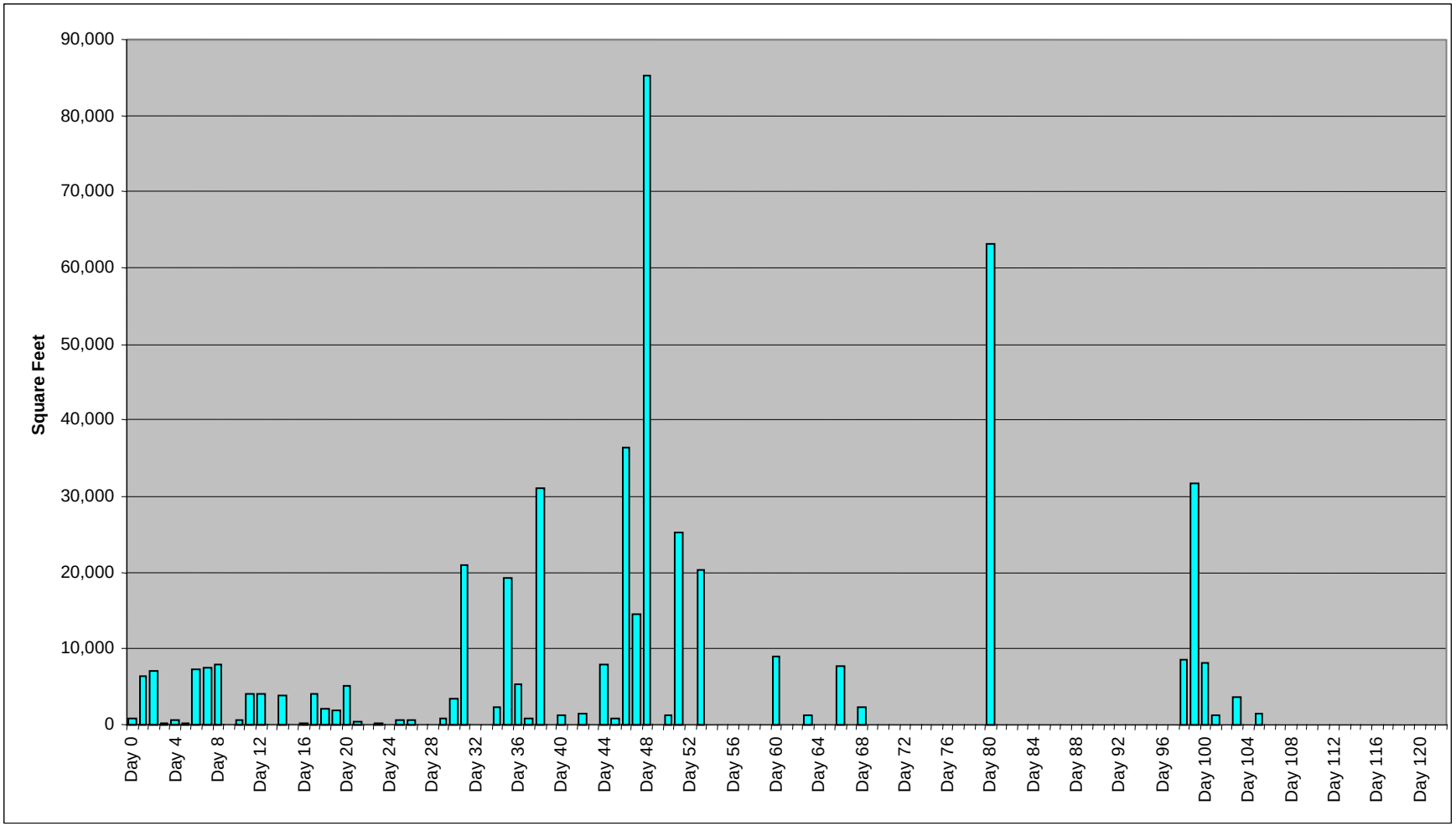


Figure E-20. Square Feet of Breakbulk Cargo Items Arriving at the Port of Savannah

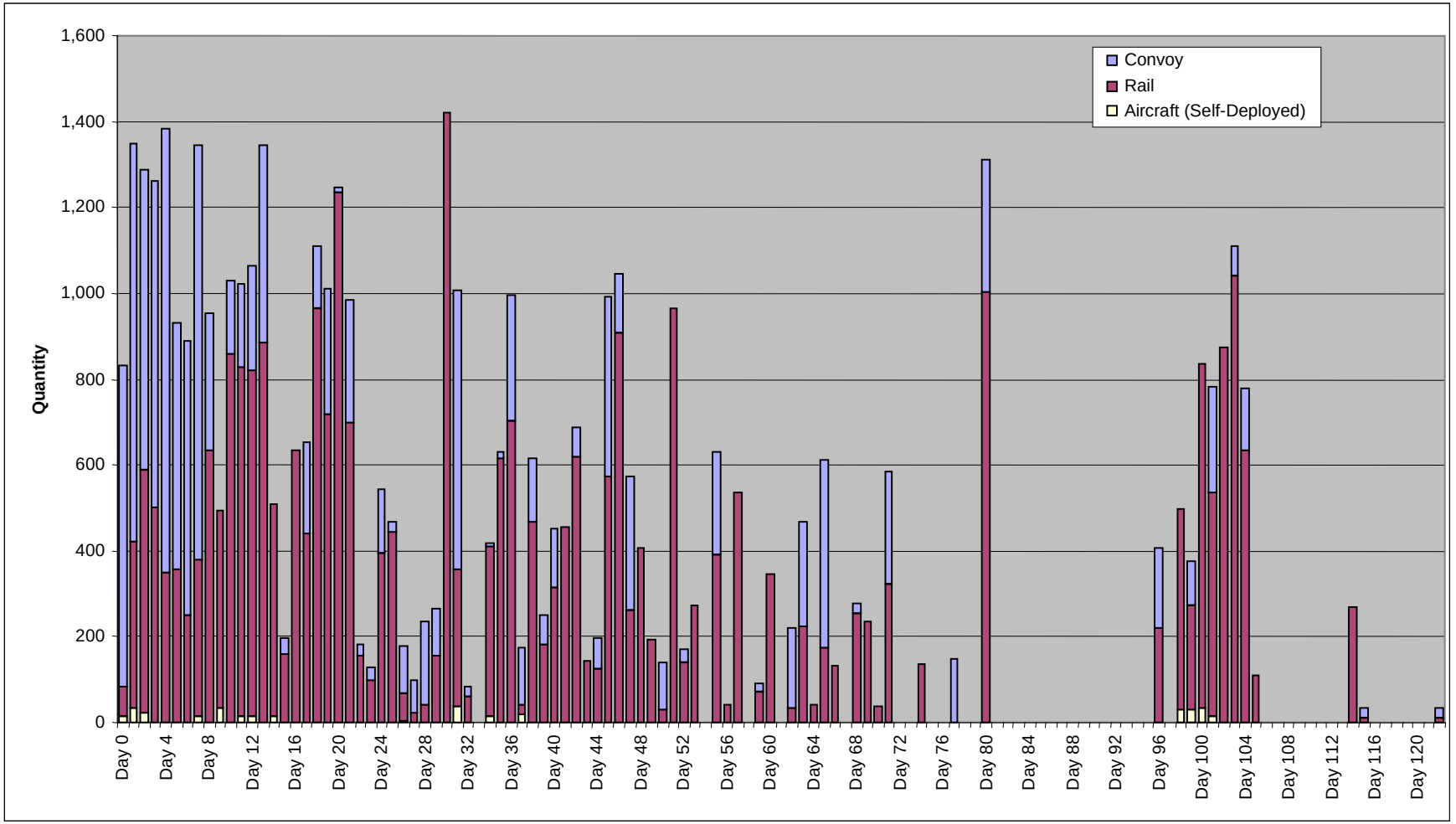


Figure E-21. Quantity of Cargo Items Arriving by Mode at the Port of Savannah

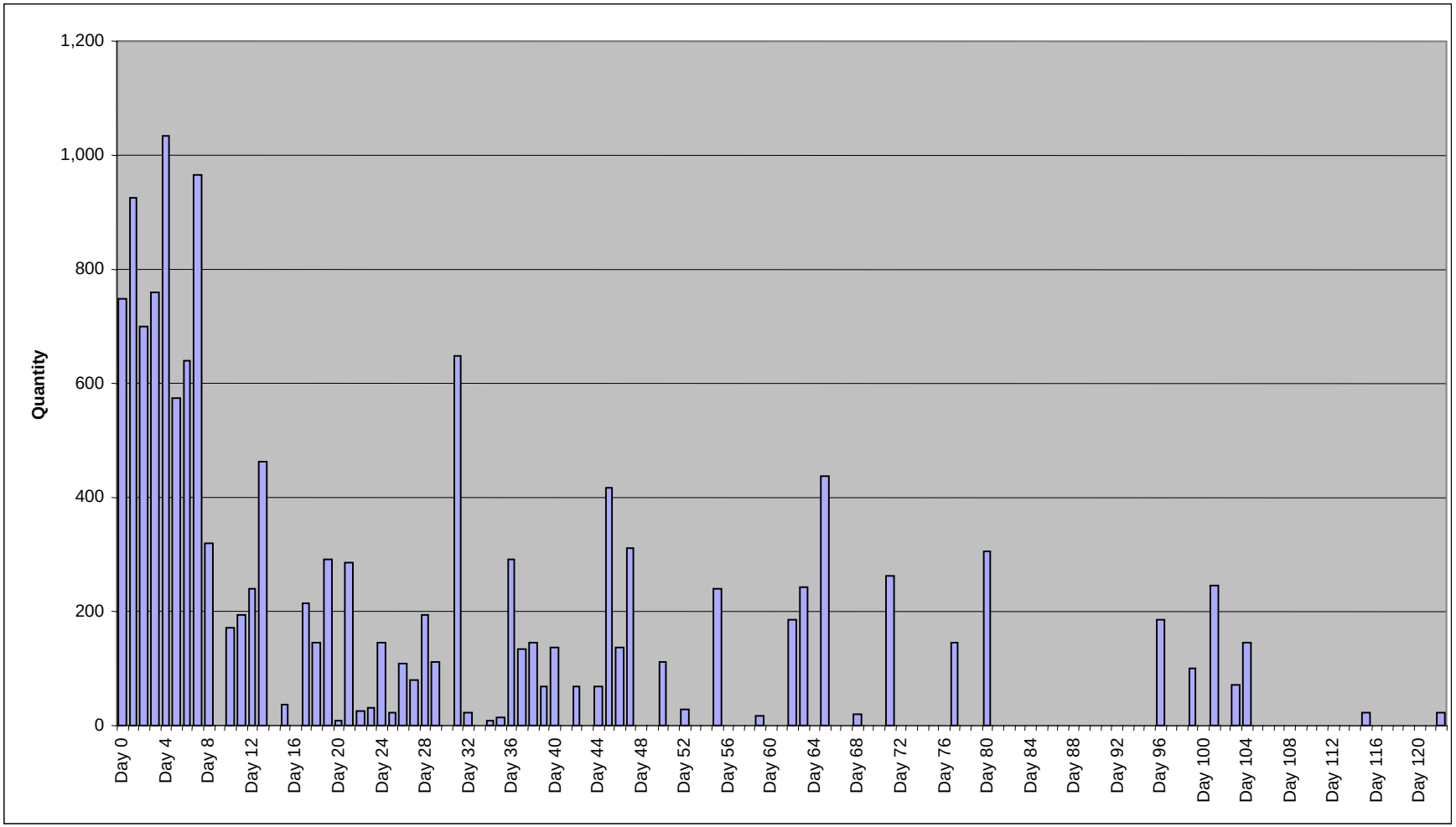


Figure E-22. Quantity of Wheeled Vehicles Convoying to the Port of Savannah

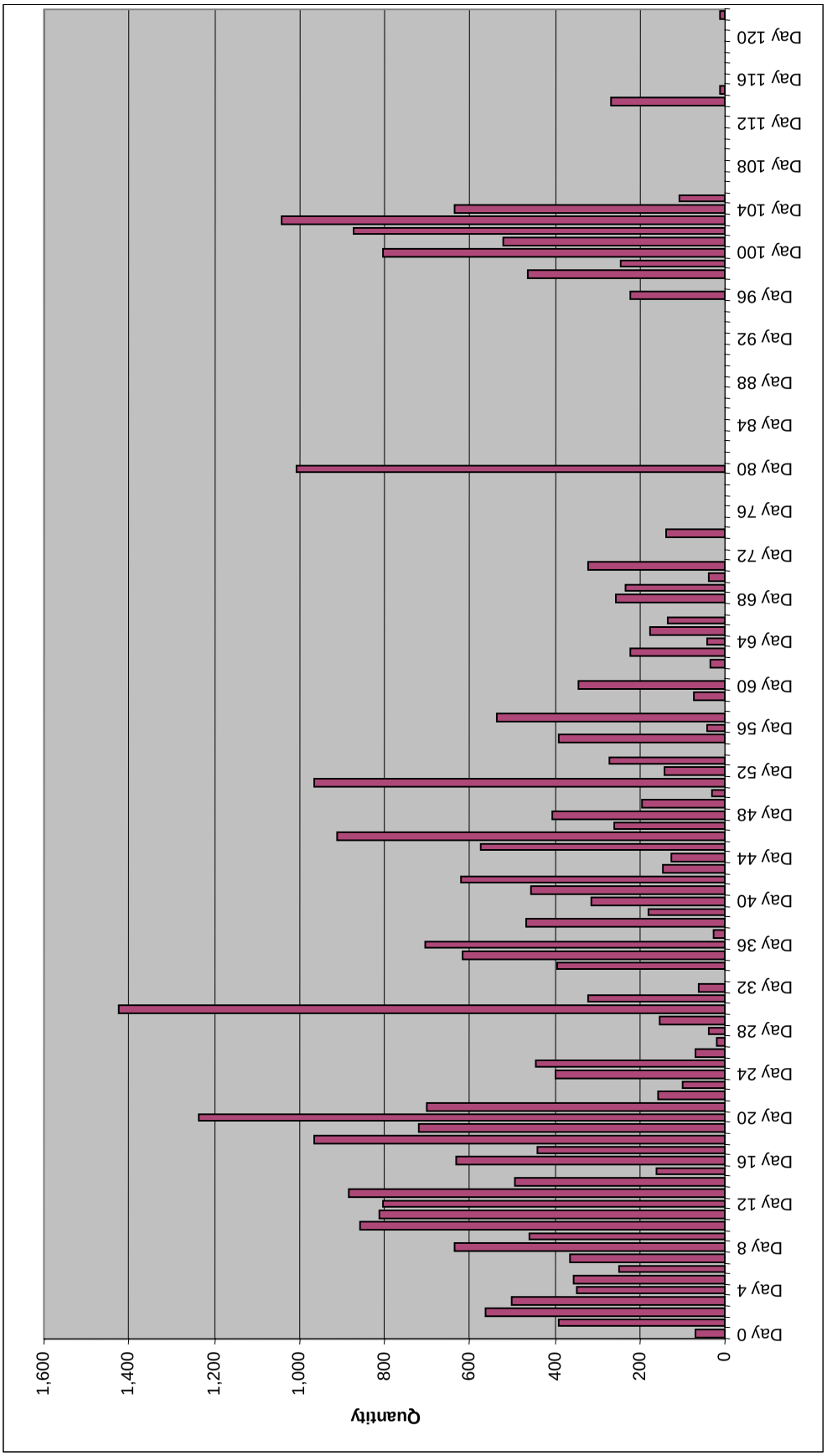


Figure E-23. Quantity of Items Arriving by Rail to the Port of Savannah

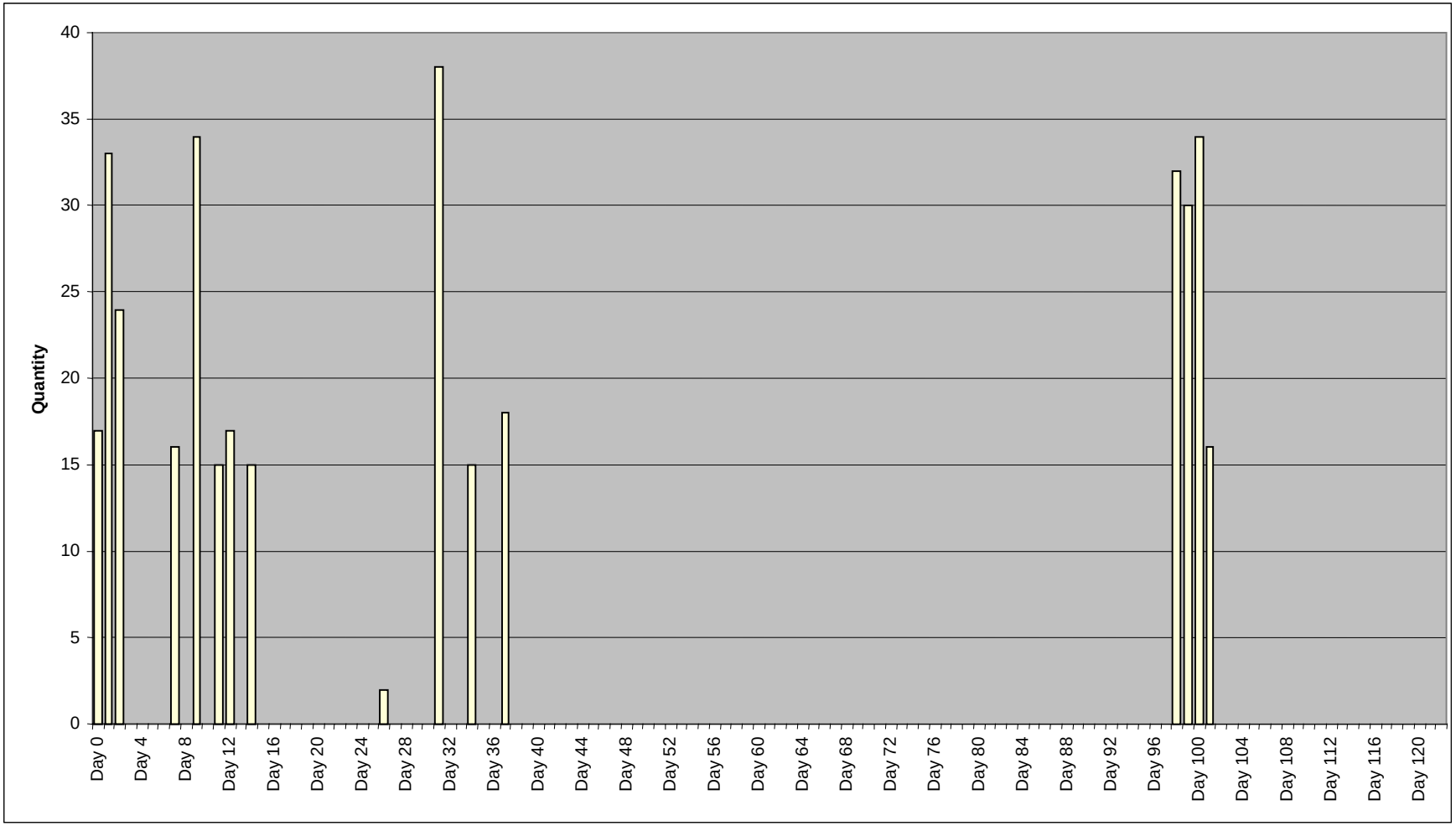


Figure E-24. Quantity of Aircraft Self-Deploying to the Port of Savannah

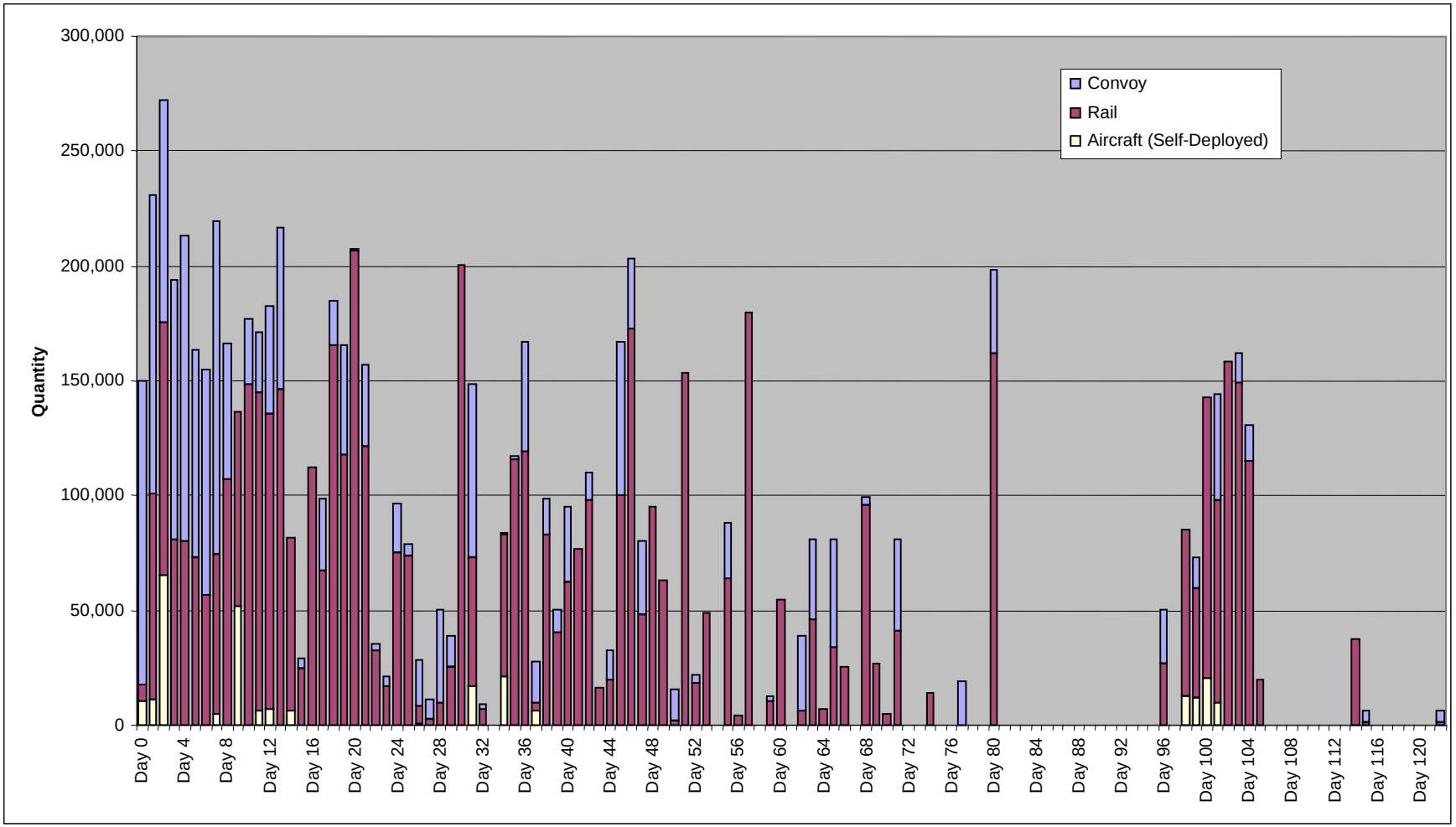


Figure E-25. Square Feet of Cargo Items Arriving by Mode to the Port of Savannah

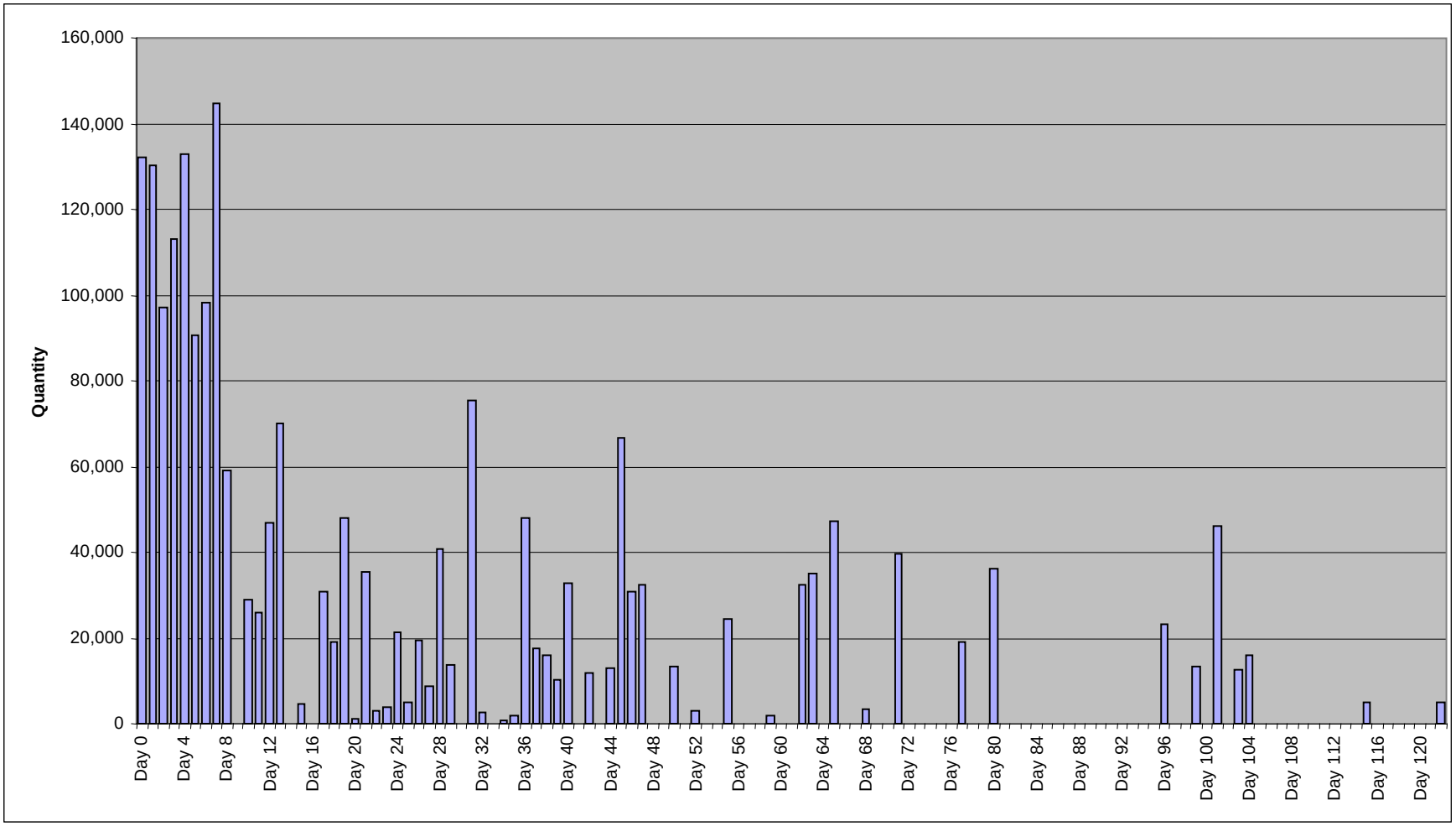


Figure E-26. Square Feet of Wheeled Vehicles Convoying to the Port of Savannah

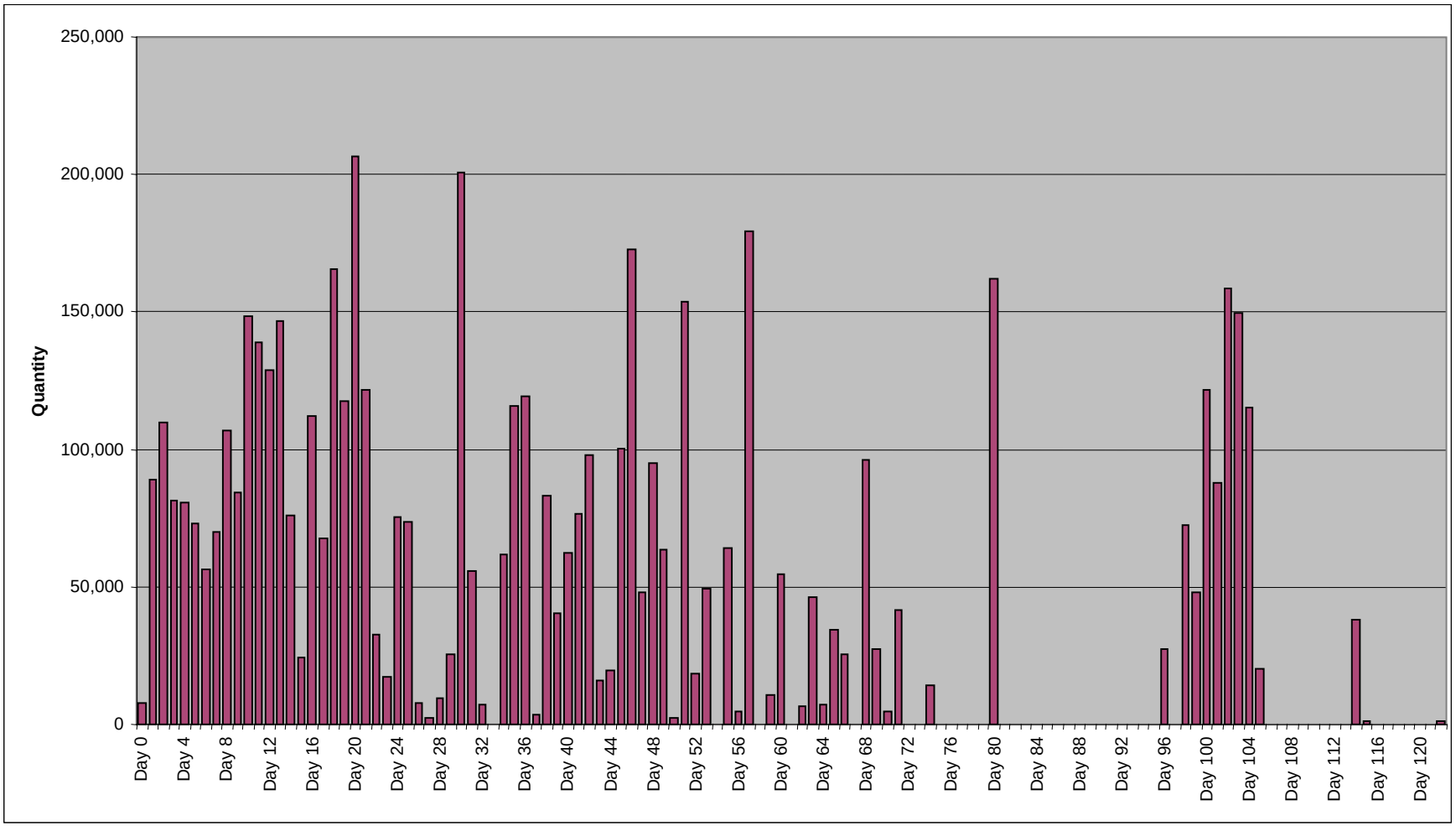


Figure E-27. Square Feet of Cargo Items Arriving by Rail to the Port of Savannah

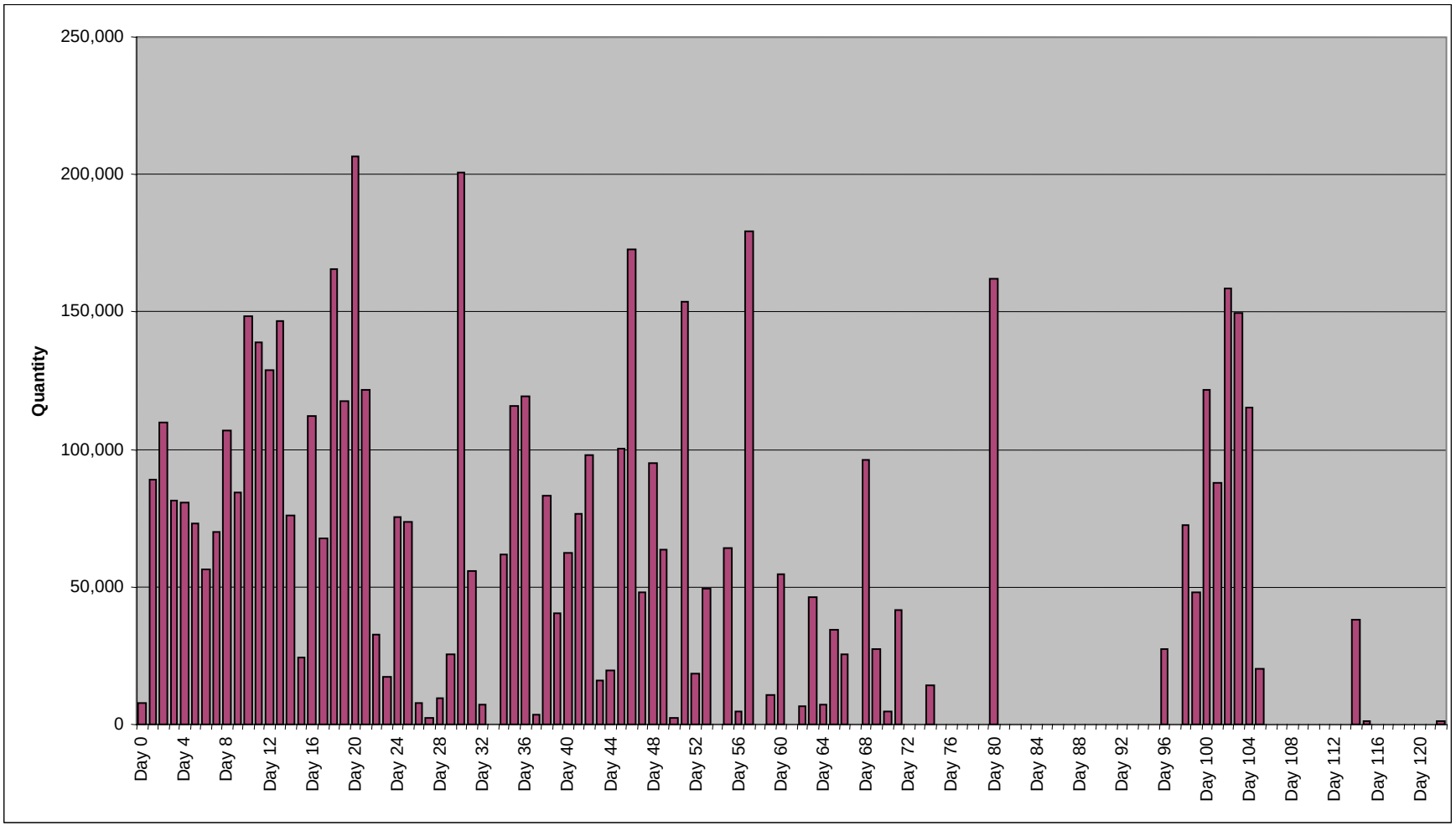


Figure E-28. Square Feet of Aircraft Self-Deploying to the Port of Savannah

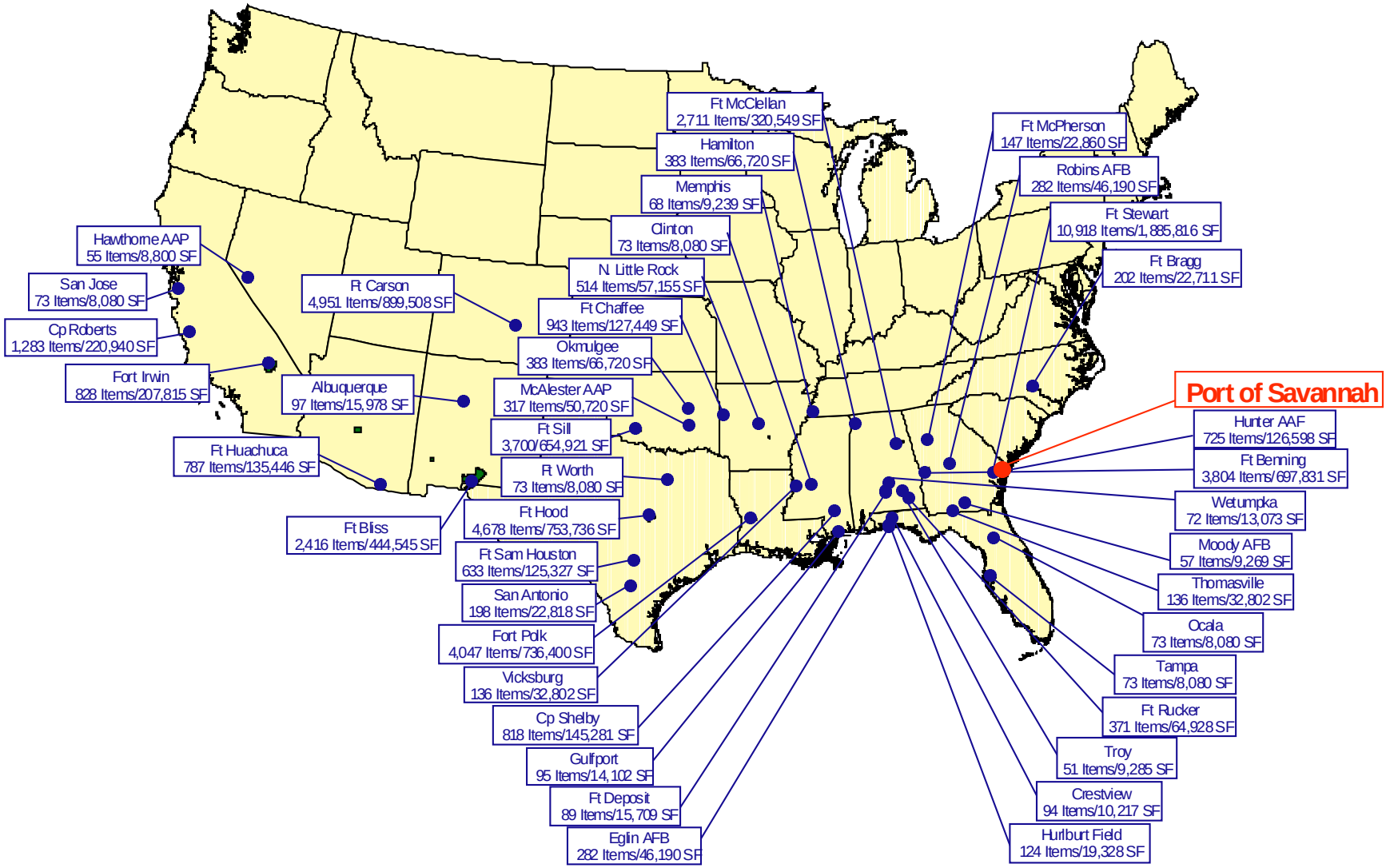


Figure E-29. Amount of Cargo Arrivcing at the Port of Savannah by Origin

Table E-2
Amount of Cargo Arriving at the Port of Savannah by Origin
(Origins not in Figure E-29)

Origin	Quantity	Square Feet
Montgomery, AL	42	7,051
Concord NWS, CA	30	4,800
Fort Gillem, GA	24	2,850
Patrick AFB, FL	24	2,850
Pine Bluff Arsenal AK	24	2,850
Anniston Army Depot, AL	17	2,720
Phoenix, AZ	12	1,952
Silver City, NM	12	1,952
Hammond, LA	11	1,250
Fallbrook, CA	3	480
Seal Beach NWS, CA	1	160

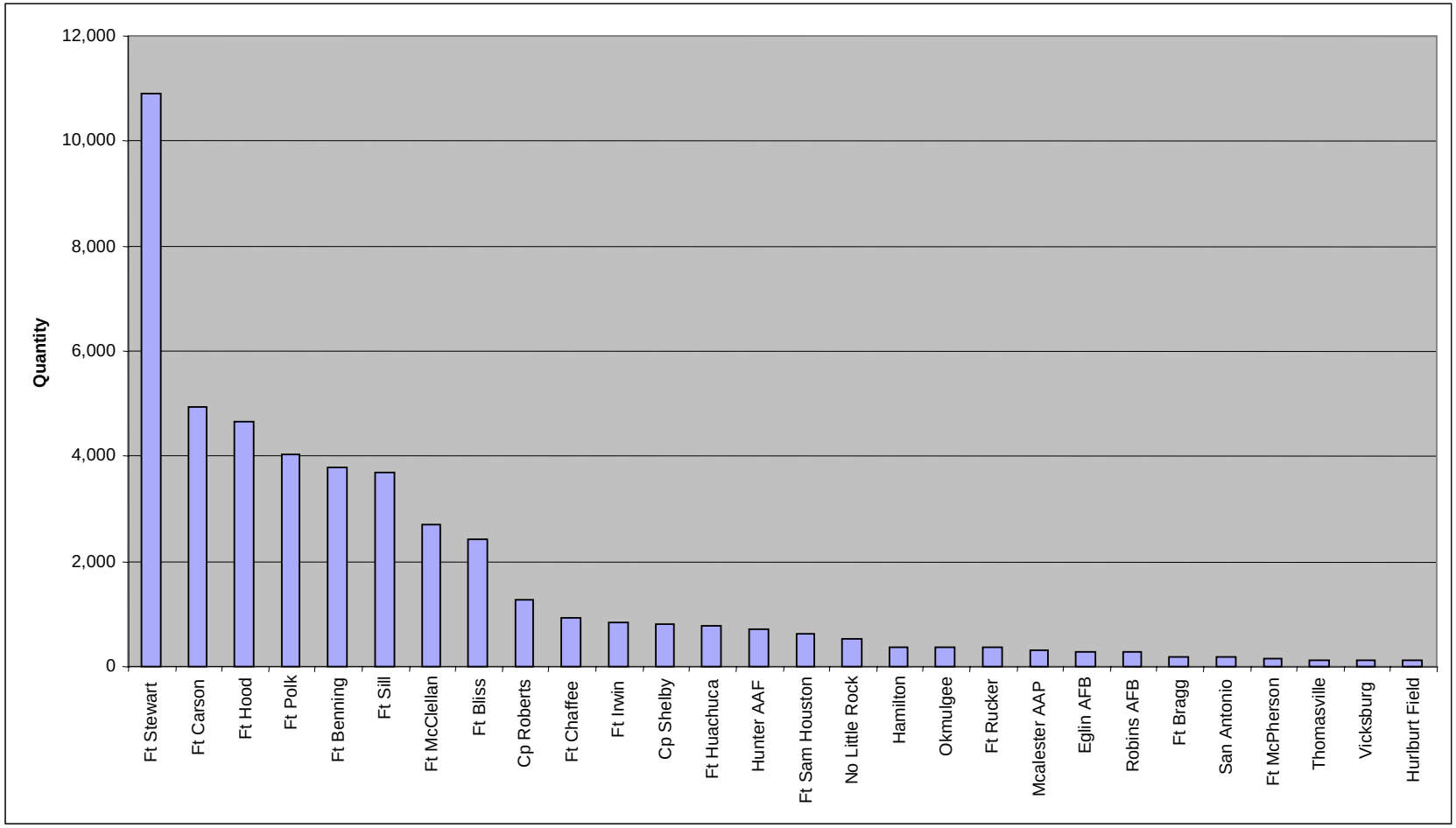


Figure E-30. Quantity of Items Arriving at the Port of Savannah by Origin

Table E-3
Amount of Cargo Arriving at the Port of Savannah by Origin
(Origins not in Figure E-30)

ORIGIN	QUANTITY
Albuquerque, NM	97
Gulfport, MS	95
Crestview, FL	94
Fort Deposit, AL	89
Clinton, MS	73
Fort Worth, TX	73
Ocala, FL	73
San Jose, CA	73
Tampa, FL	73
Wetumpka, AL	72
Memphis, TN	68
Moody AFB, GA	57
Hawthorne AAP, NV	55
Troy, AL	51
Montgomery, AL	42
Concord NWS, CA	30
Fort Gillem, GA	24
Patrick AFB, FL	24
Pine Bluff Arsenal, AK	24
Anniston Army Depot, AL	17
Phoenix, AZ	12
Silver City, NM	12
Hammond, LA	11
Fallbrook, CA	3
Seal Beach NWS, CA	1

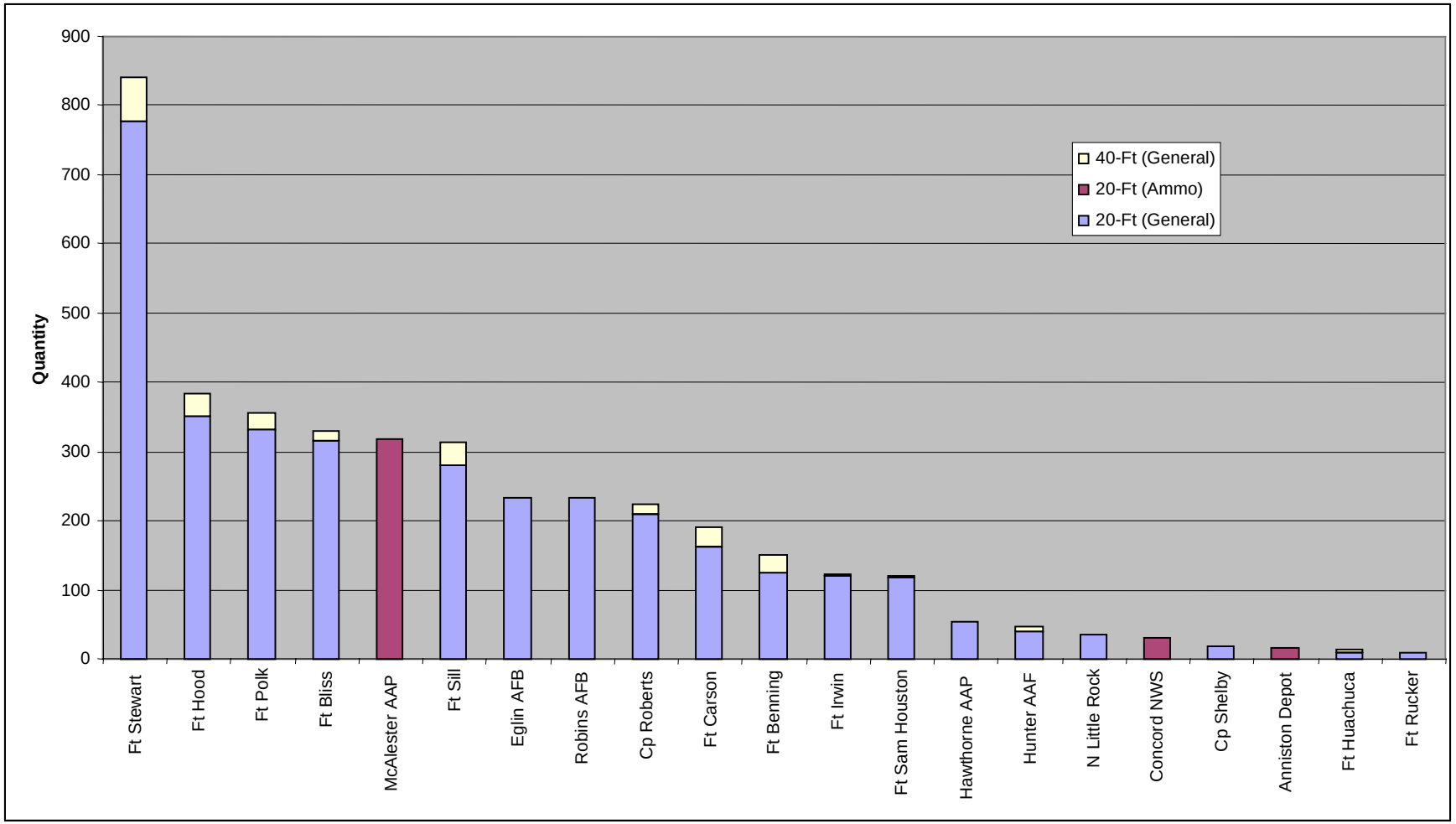


Figure E-31. Quantity of Containers Arriving at the Port of Savannah by Origin

Table E-4
Quantity of Containers Arriving at the Port of Savannah by Origin
(Origins not in Figure E-31)

ORIGIN	20-FT (General)	20-FT (Ammo)	40-FT (General
Fort McClellan, AL			7
Fort Chaffee, AK	5		1
Hamilton, AL	5		1
Omulgee, OK	5		1
Fort Bragg, NC	5		
Fort McPherson, GA	3		2
Fallbrook, CA		3	
Fort Deposit, AL	2		
Gulfport, MS	2		
Hurlburt Field, FL	2		
Troy, AL	2		
Albuquerque, NM	1		
Fort Gillem, GA			1
Memphis, TN			1
Montgomery, AL	1		
Patrick AFB, FL			1
Pine Bluff Arsenal, AK			1
Seal Beach NWS, CA		1	
Wetumpka, AL			1

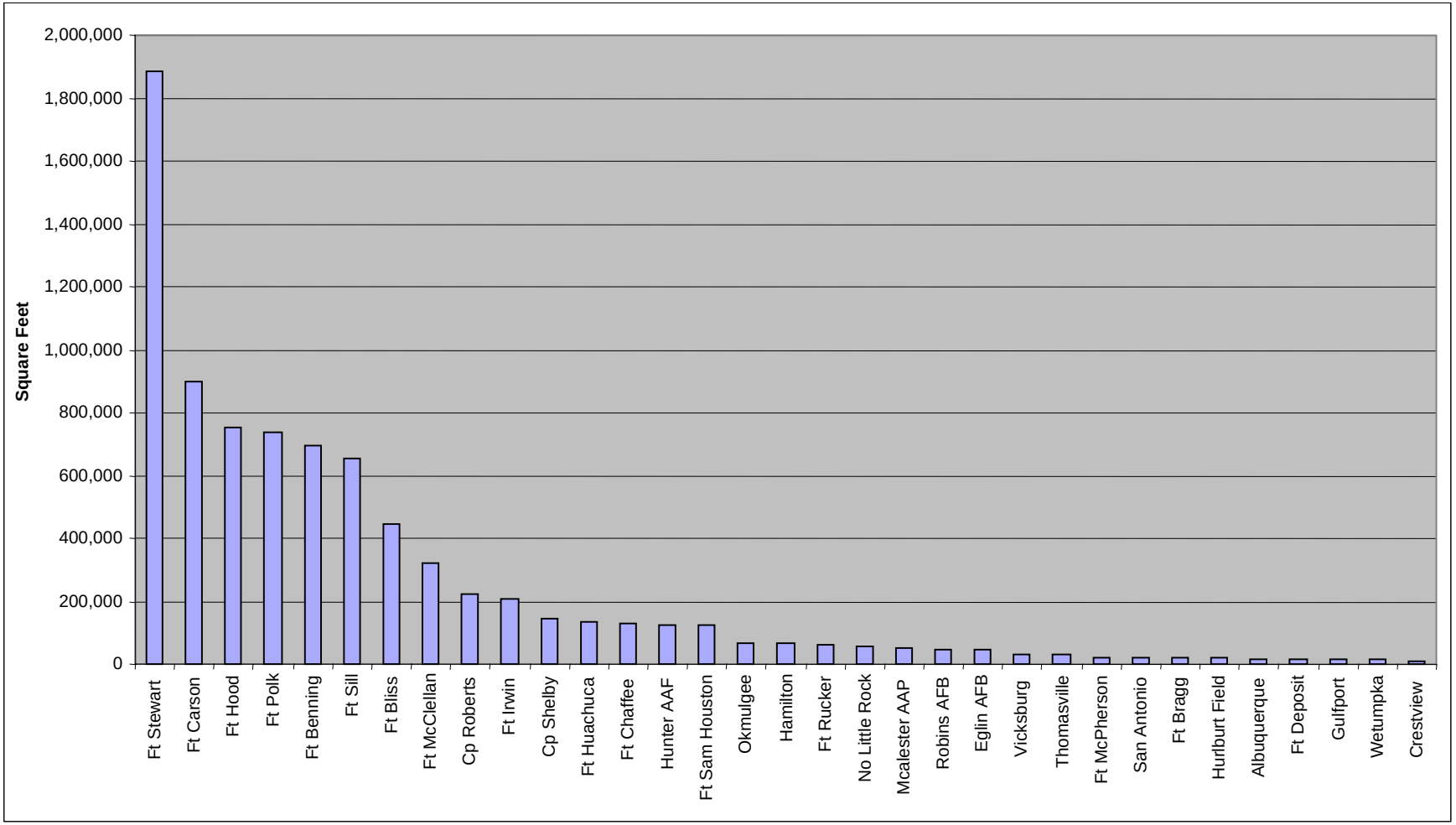


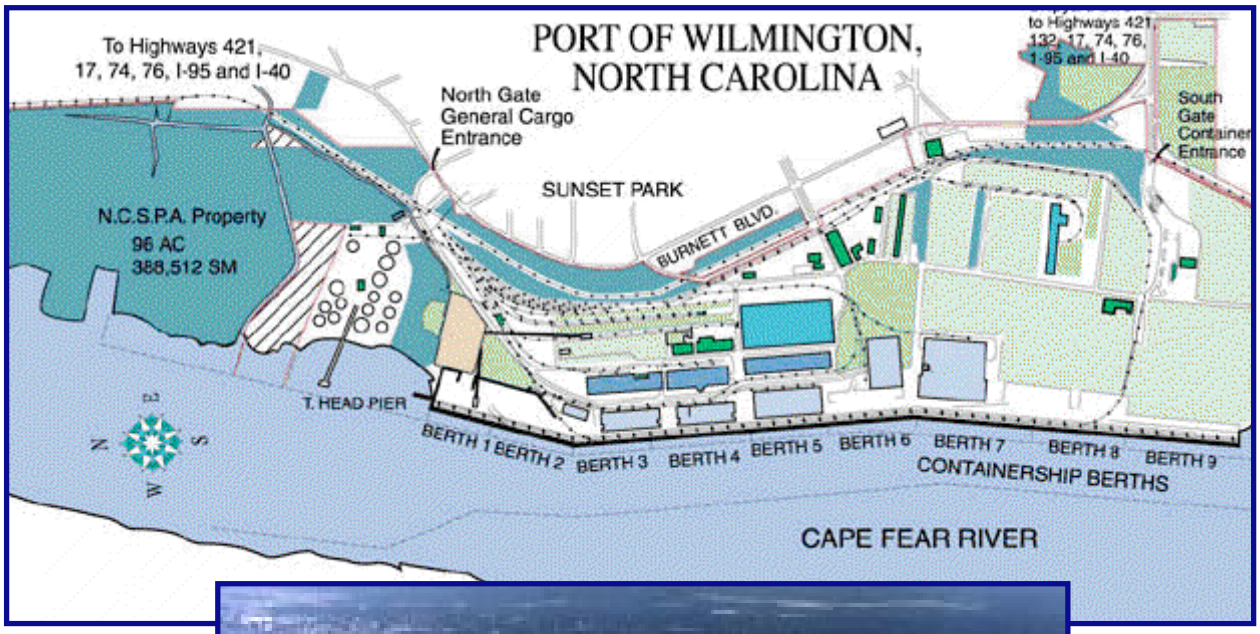
Figure E-32. Square Feet of Cargo Arriving at the Port of Savannah by Origin

Table E-5
Amount of Cargo Arriving at the Port of Savannah by Origin
(Origins not in Figure E-32)

ORIGIN	SQUARE FEET
Troy, AL	9,285.1
Moody AFB, GA	9,269.0
Memphis, TN	9,238.8
Hawthorne AAP, NV	8,800.0
Tampa, FL	8,080.2
San Jose, CA	8,080.2
Ocala, FL	8,080.2
Fort Worth, TX	8,080.2
Clinton, MS	8,080.2
Montgomery, AL	7,051.2
Concord NWS, CA	4,800.0
Pine Bluff Arsenal, AK	2,849.8
Patrick AFB, FL	2,849.8
Fort Gillem, GA	2,849.8
Anniston Army Depot, AL	2,720.0
Silver City, NM	1,952.3
Phoenix, AZ	1,952.3
Hammond, LA	1,250.2
Fallbrook, CA	480.0
Seal Beach NWS, CA	160.0

APPENDIX F

PORT OF WILMINGTON



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According to the TPFDD, there are 16 origins sending cargo to the Port of Wilmington. These origins are shown in Figure F-1. Wilmington receives a mix of Army and Marine Corps cargo, with the bulk of the workload being Marine Corps cargo. Origins in excess of 400 miles send all of their cargo to the Port of Wilmington by rail. Origins within 400 miles convoy their roadable vehicles to the port and send everything else by rail. All aircraft self-deploy to the port. Figures F-2 through F-6 show the quantity of transports (containers, railcars, self-deploying aircraft, and convoying vehicles) required to move to the Port of Charleston.

Figures F-7 through F-12 illustrate the quantity of items arriving at the port. Figure F-7 is the total quantity of items. Figures F-8 through F-13 break this down into more detail. Figures F-8 and F-9 are the quantity of vehicles arriving at the port. Figure F-8 outlines the wheeled vehicles and Figure F-9 lays out the tracked vehicles. Figure F-10 shows the quantity of aircraft arriving at the port. These are mostly helicopters, and all self move to the port under their own power. Figures F-11 and F-12 outline the number of containers and breakbulk cargo items, respectively, arriving at the port.

Similar to Figures F-7 through F-12, which lay out the quantity of items arriving, Figure F-13 through F-18 outline the square footage of these categories of cargo.

Figures F-19 through F-26 show how cargo is arriving at the Port of Wilmington. Figure F-19 through F-22 shows the number of cargo items arriving by convoy, rail, or self-deploying. Figures F-23 through F-26 show the square footage of cargo arriving by each mode.

As shown earlier, cargo arrives at the Port of Wilmington from many origins. Figure F-27 shows visually the amount of cargo coming from the major origins.

Figures F-28 and F-30 show the quantity and square footage, respectively, of cargo arriving at the Port of Wilmington by origin. Figure F-29 is the quantity of containers arriving at the Port of Wilmington from each origin.

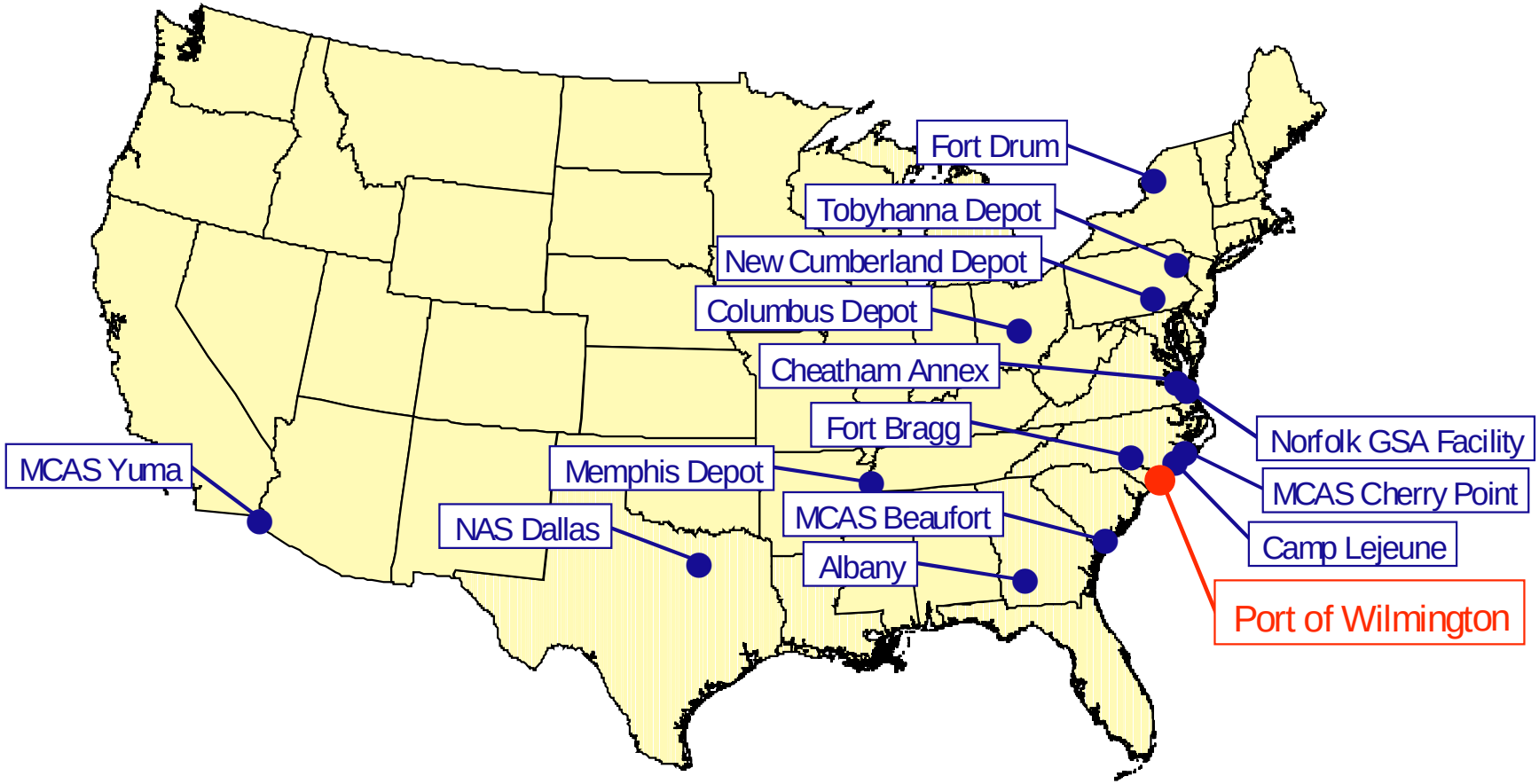

Figure F-1. Cargo Arrives at the Port of Wilmington from Many Origins

DRAFT

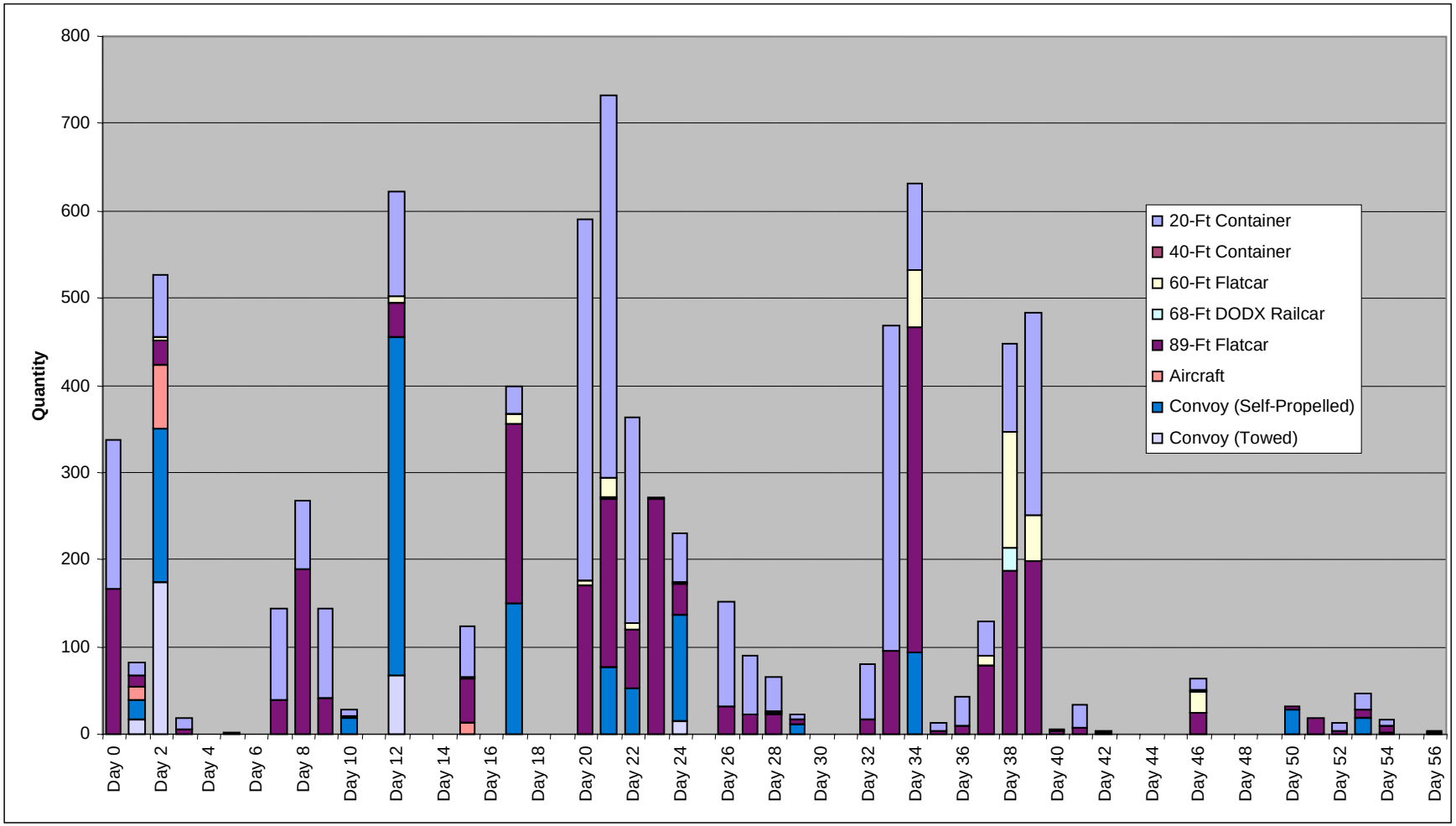

Figure F-2. Total Quantity of Transports Arriving at the Port of Wilmington

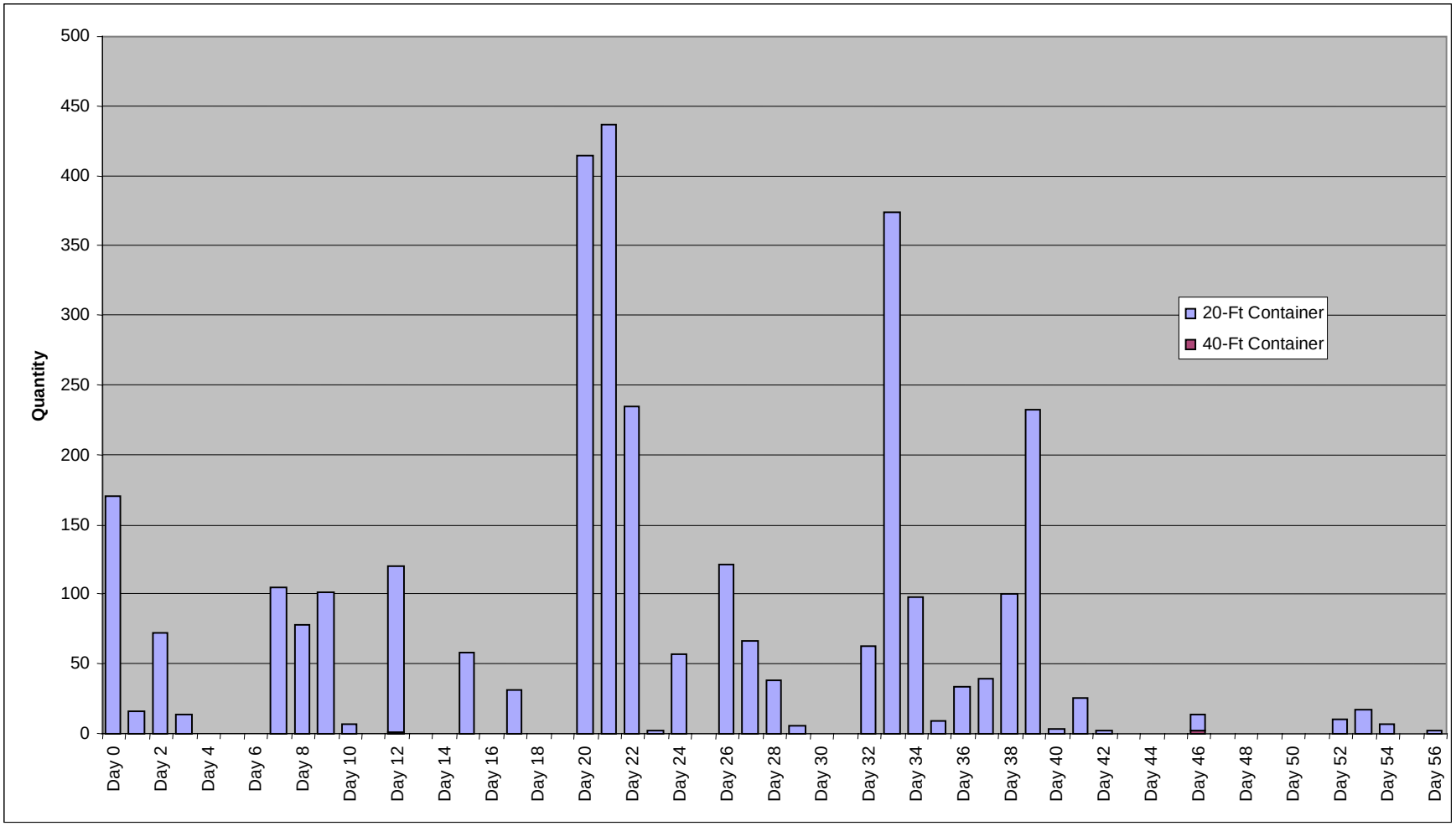

Figure F-3. Quantity of Containers Arriving at the Port of Wilmington

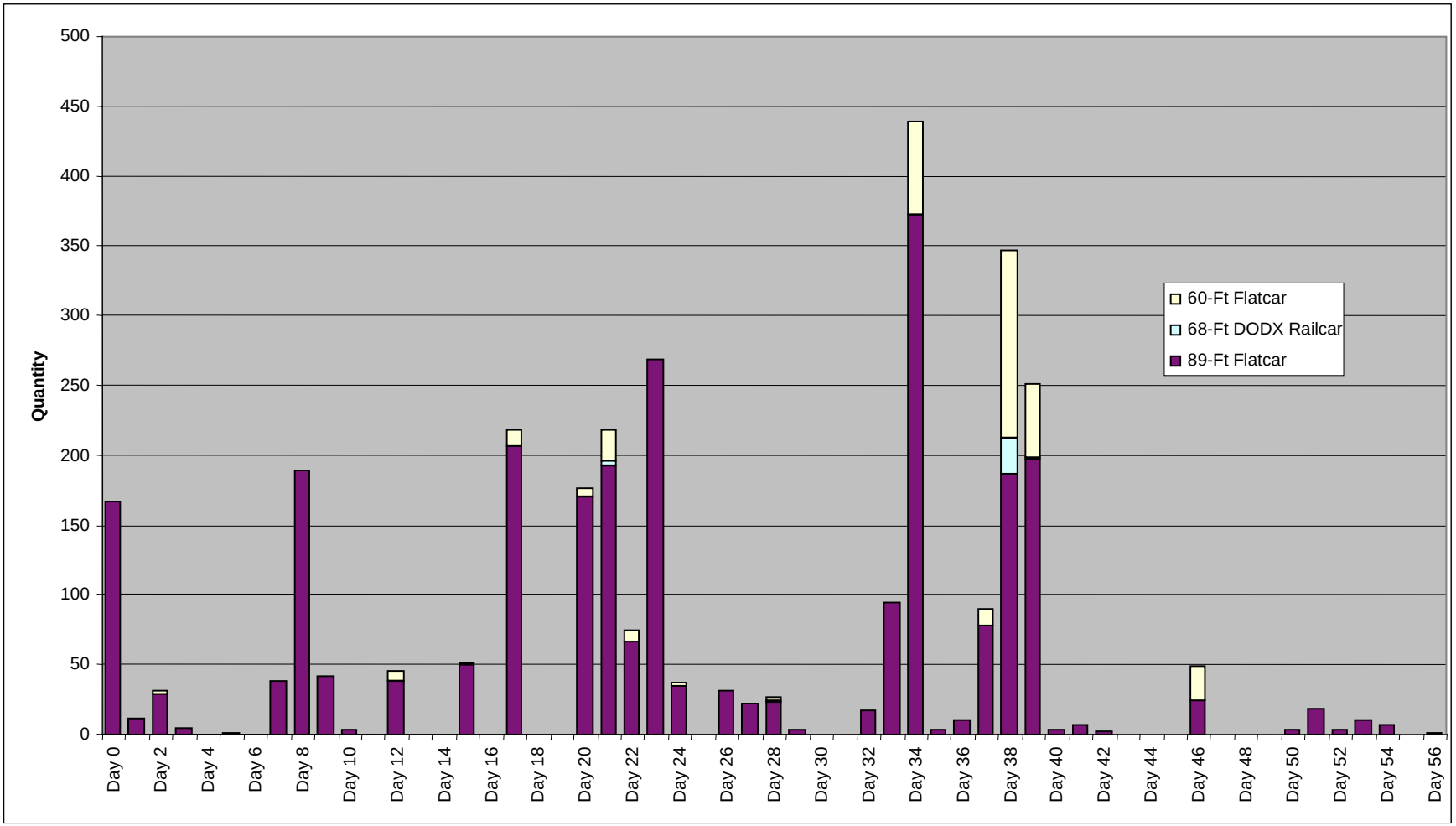

Figure F-4. Quantity of Railcars Arriving at the Port of Wilmington

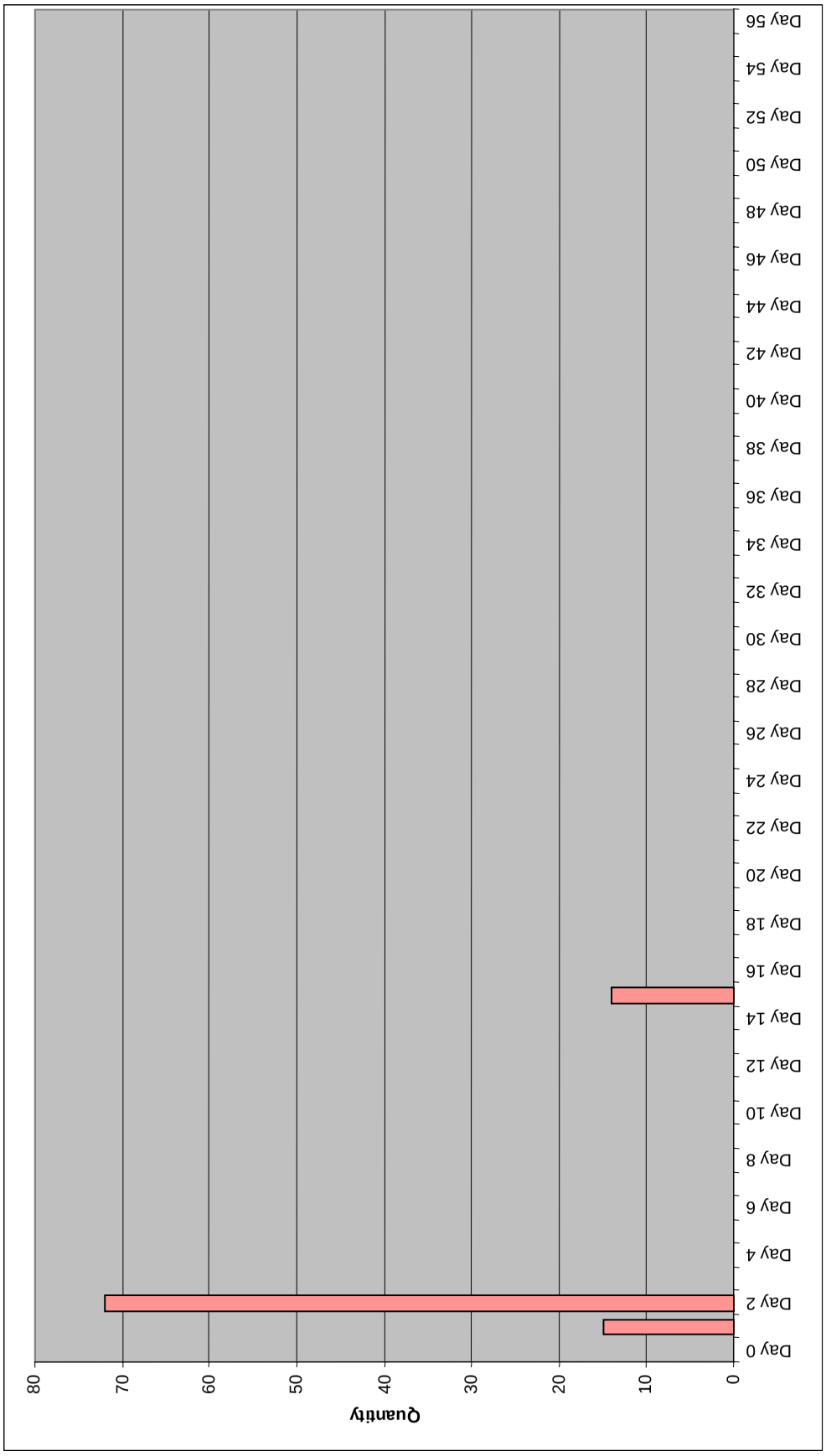

Figure F-5. Quantity of Aircraft Arriving at the Port of Wilmington

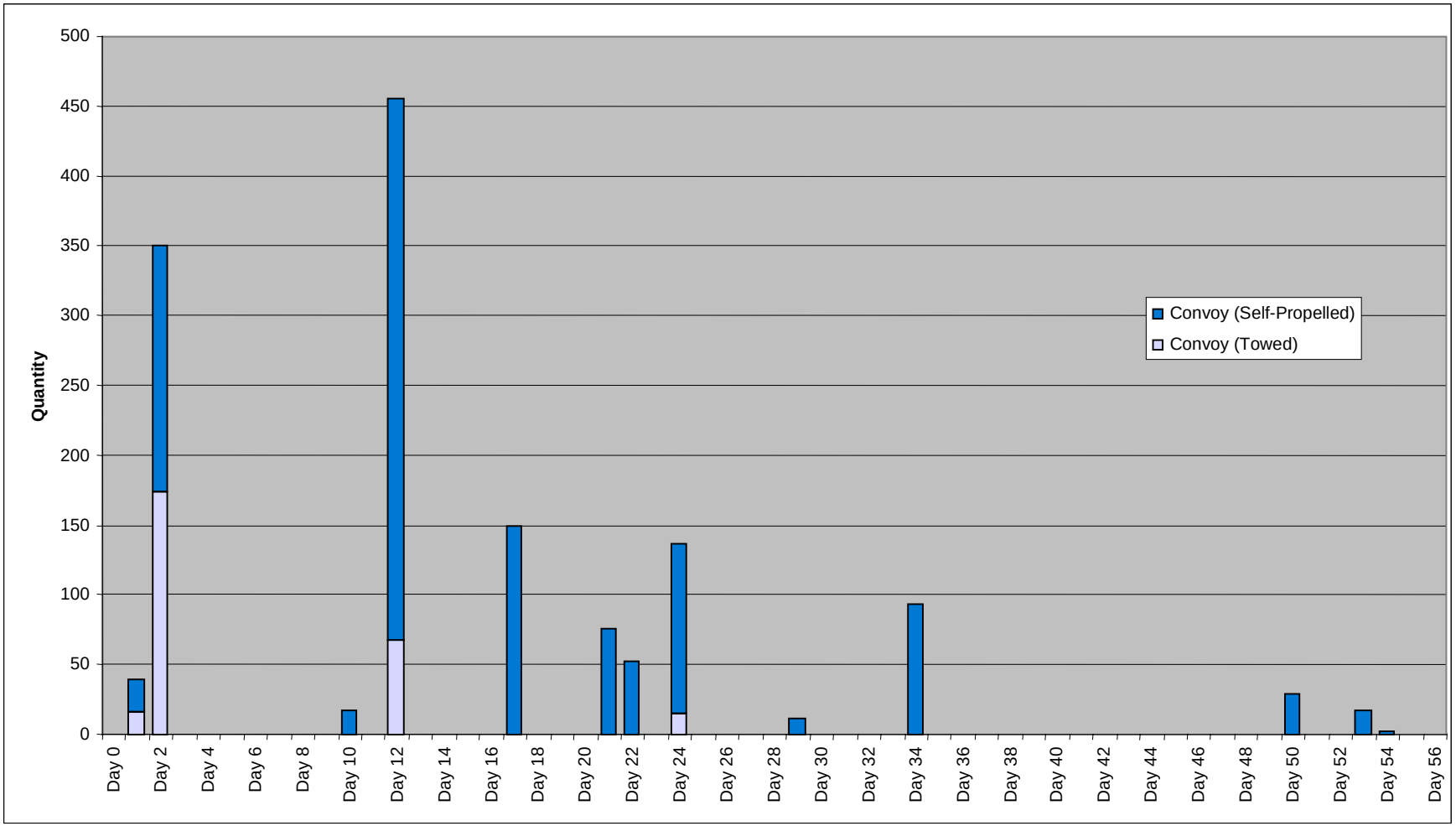

Figure F-6. Quantity of Convoy Vehicles Arriving at the Port of Wilmington

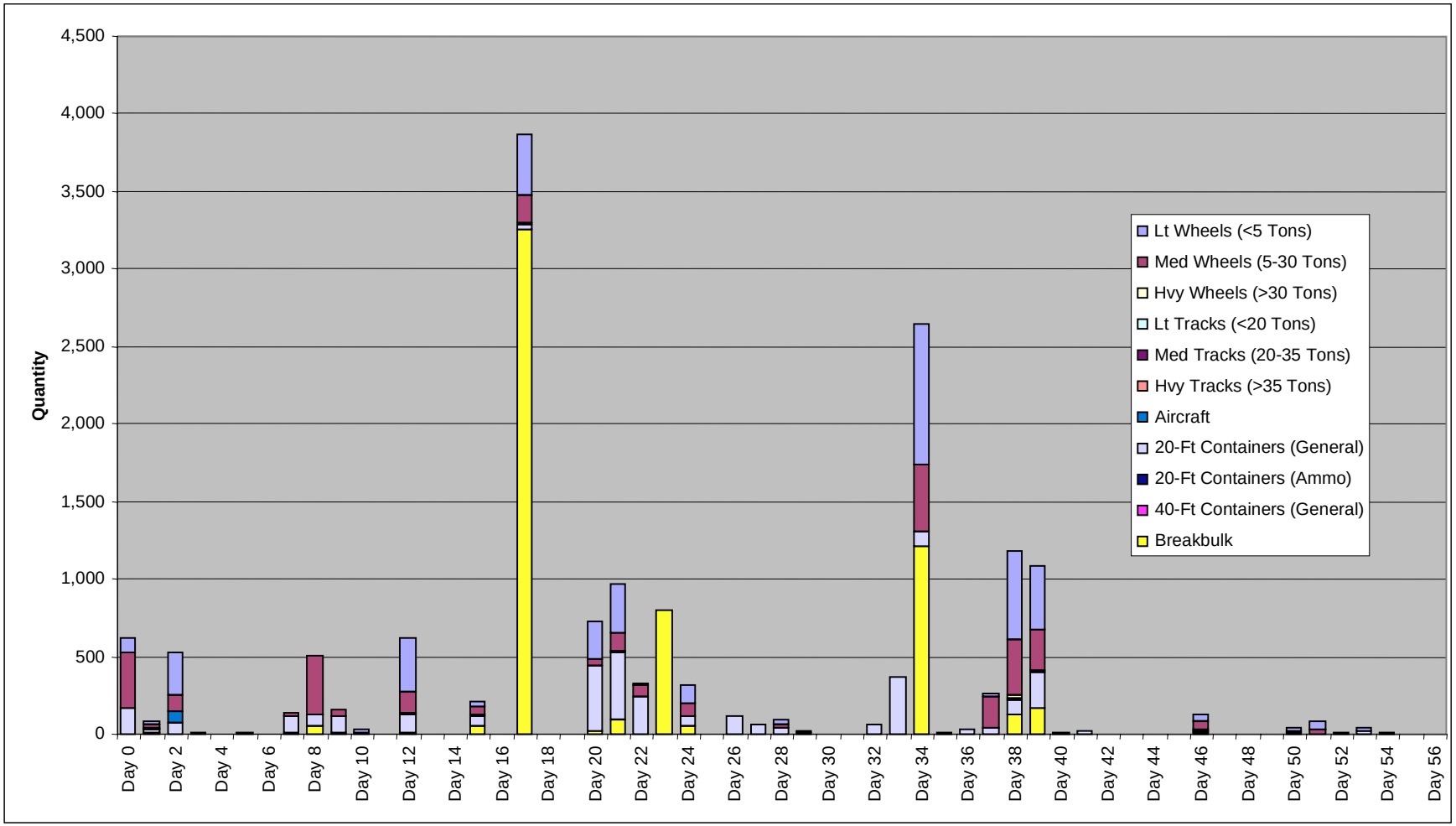

Figure F-7. Total Quantity of Items Arriving at the Port of Wilmington

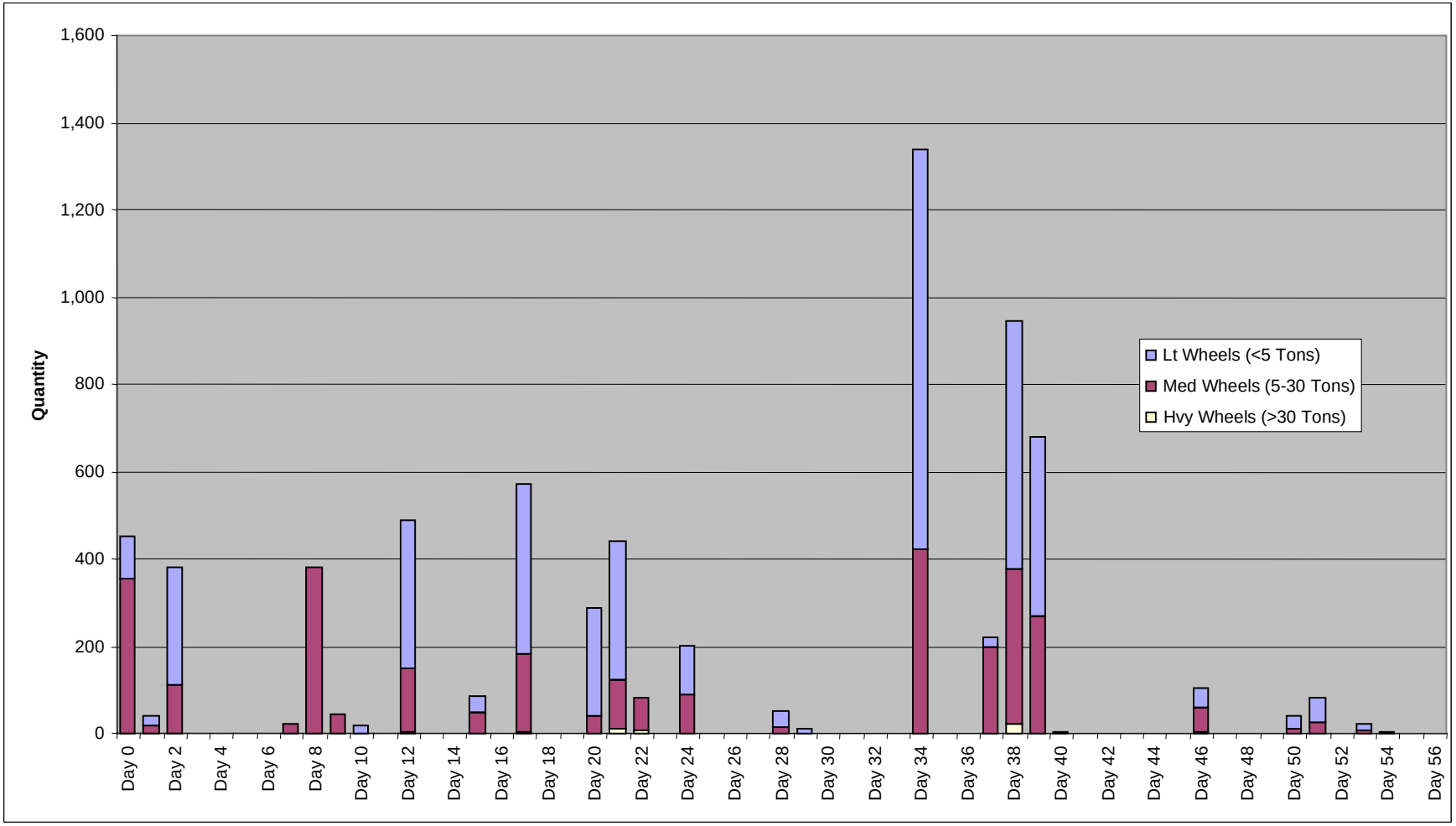

Figure F-8. Quantity of Wheeled Vehicles Arriving at the Port of Wilmington

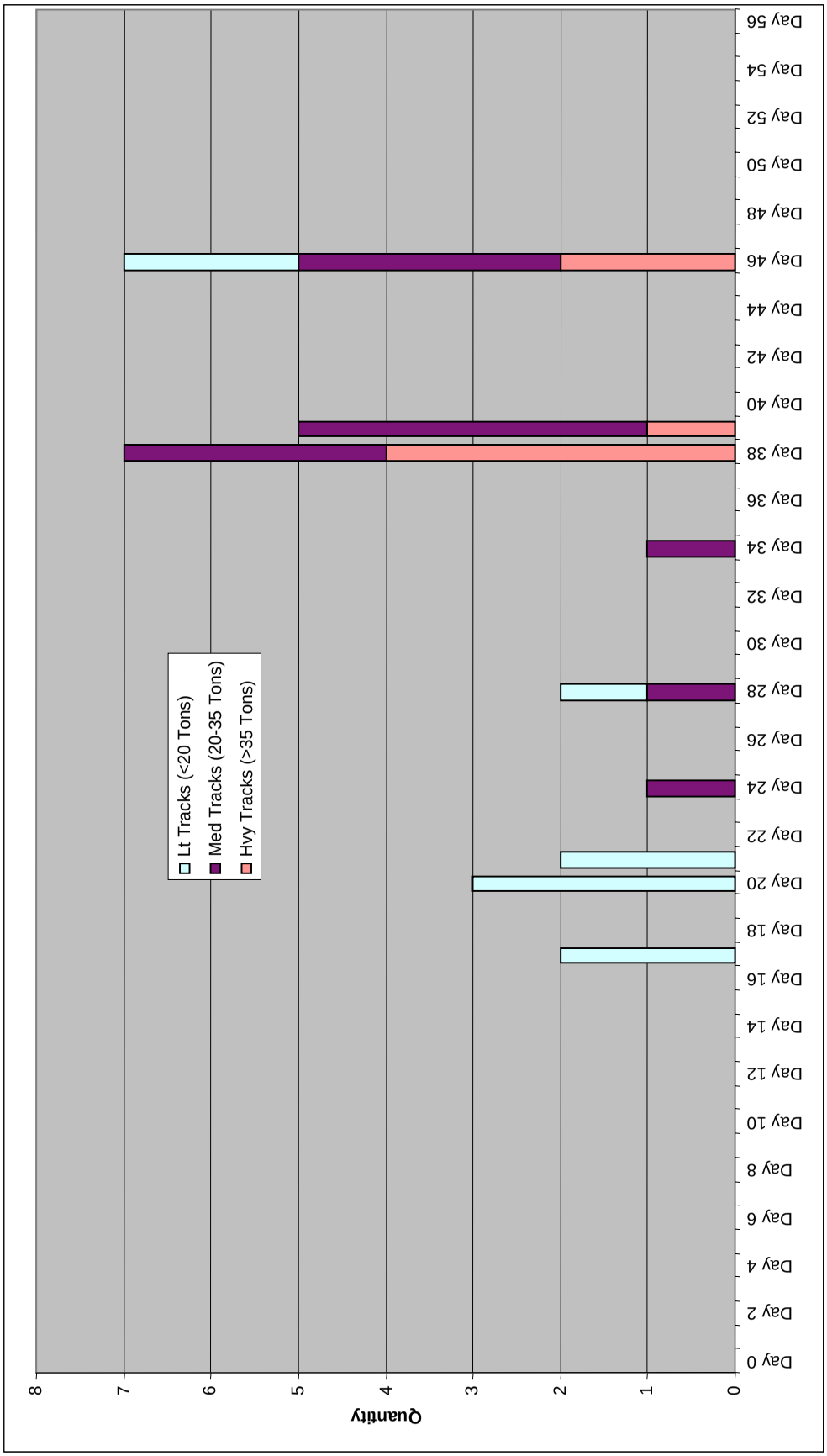

Figure F-9. Quantity of Tracked Vehicles Arriving at the Port of Wilmington

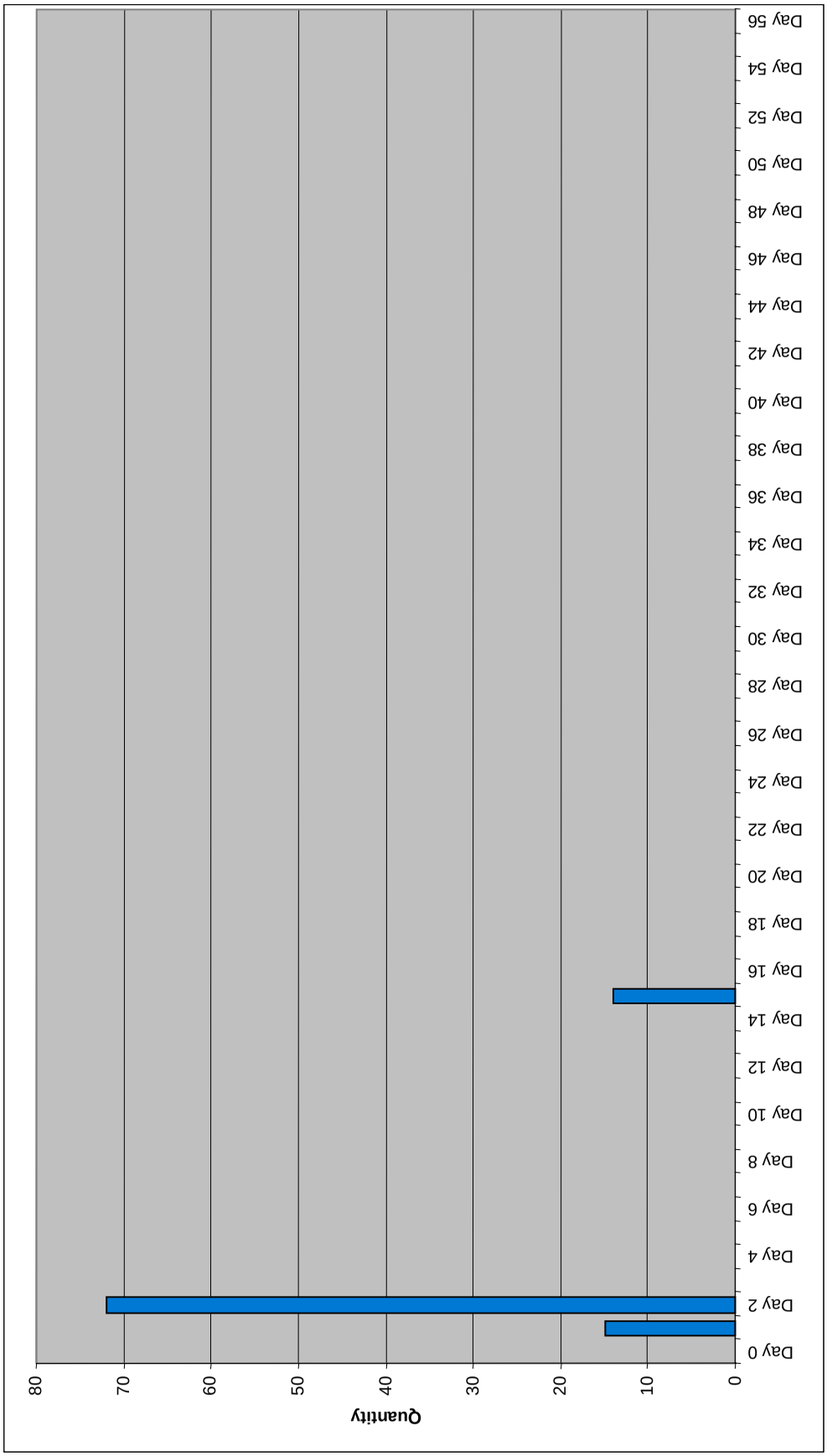

Figure F-10. Quantity of Aircraft Arriving at the Port of Wilmington

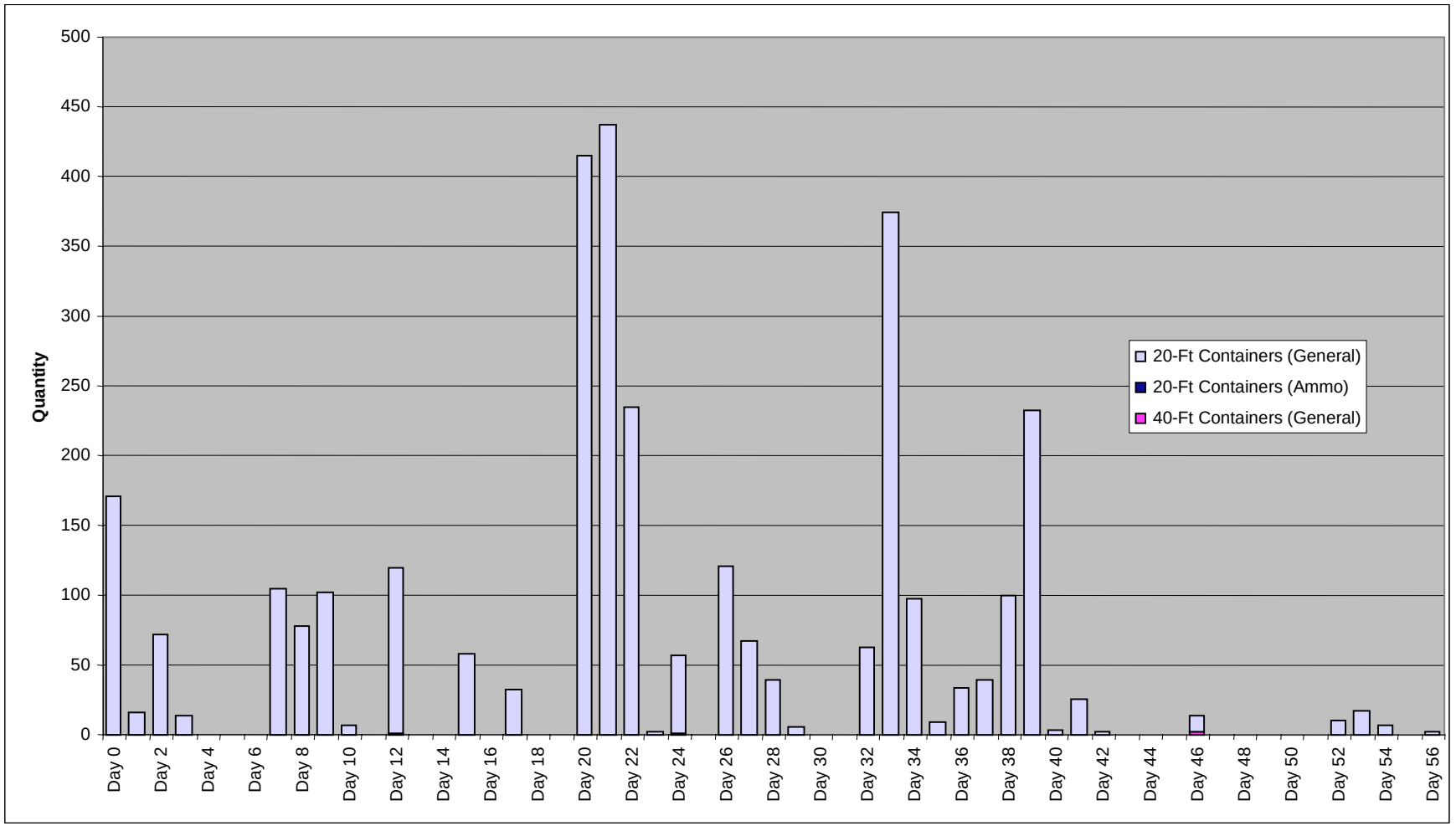

Figure F-11. Quantity of Containers Arriving at the Port of Wilmington

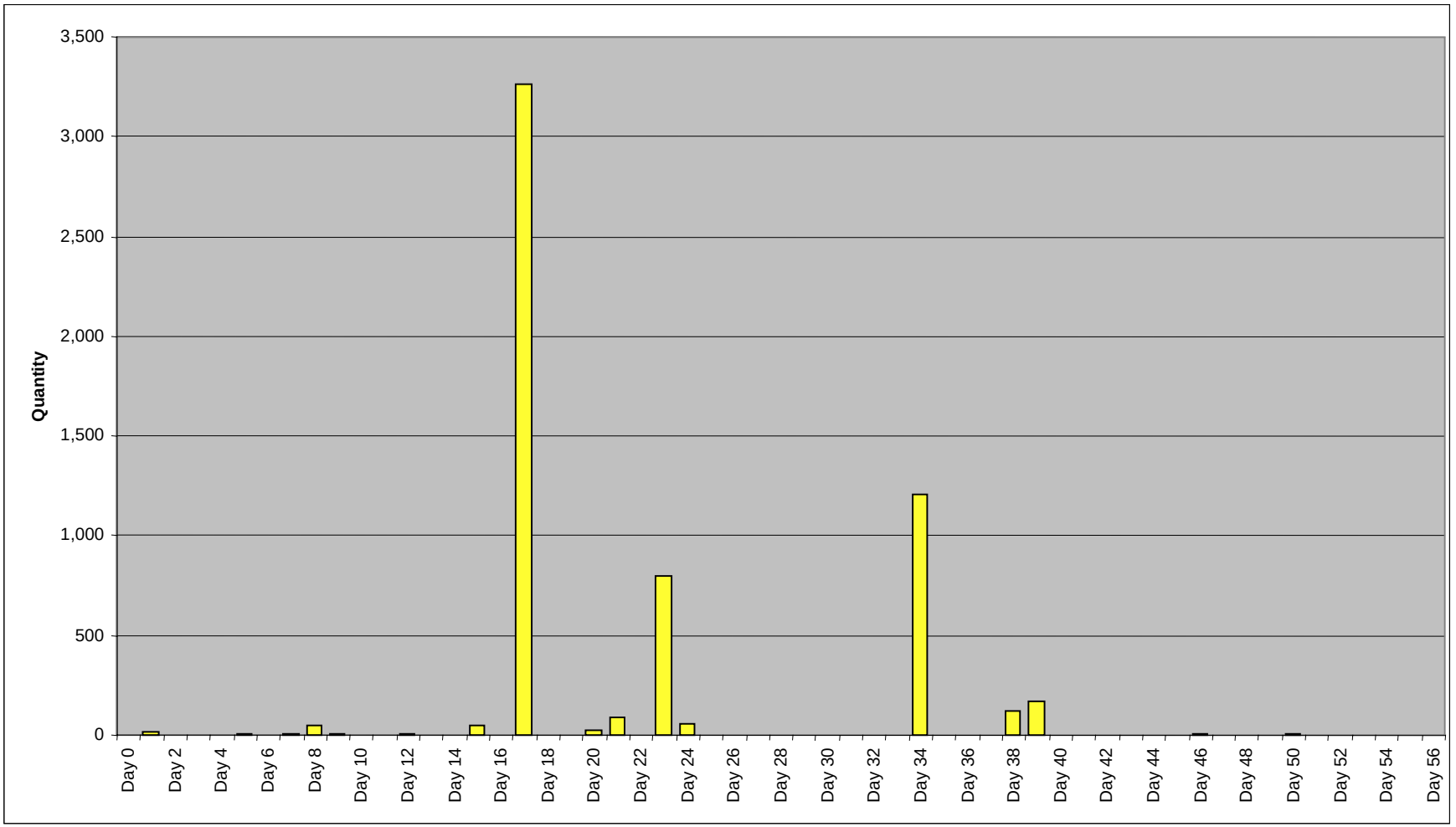

Figure F-12. Quantity of Breakbulk Cargo Arriving at the Port of Wilmington

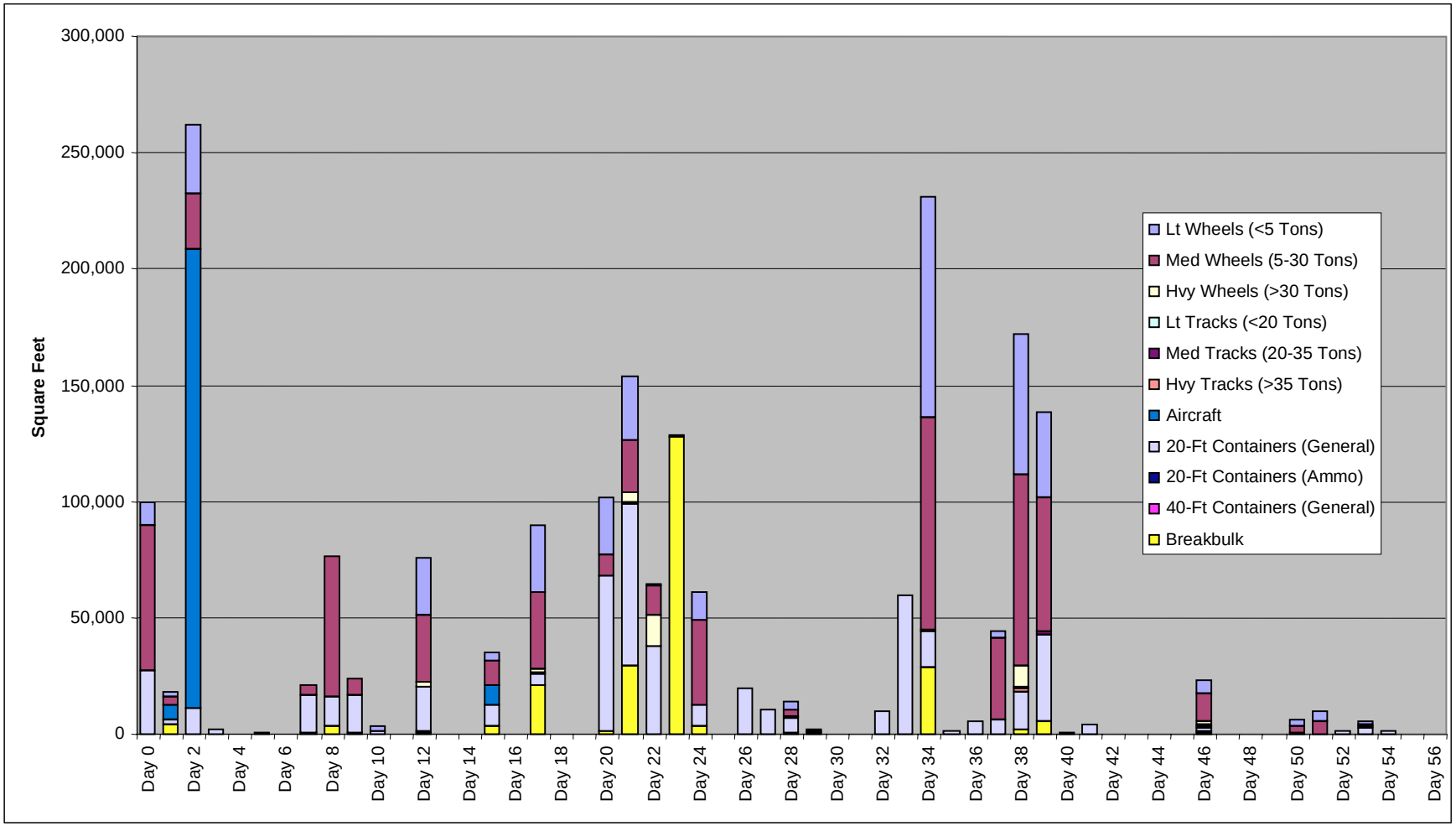

Figure F-13. Total Square Feet of Cargo Arriving at the Port of Wilmington

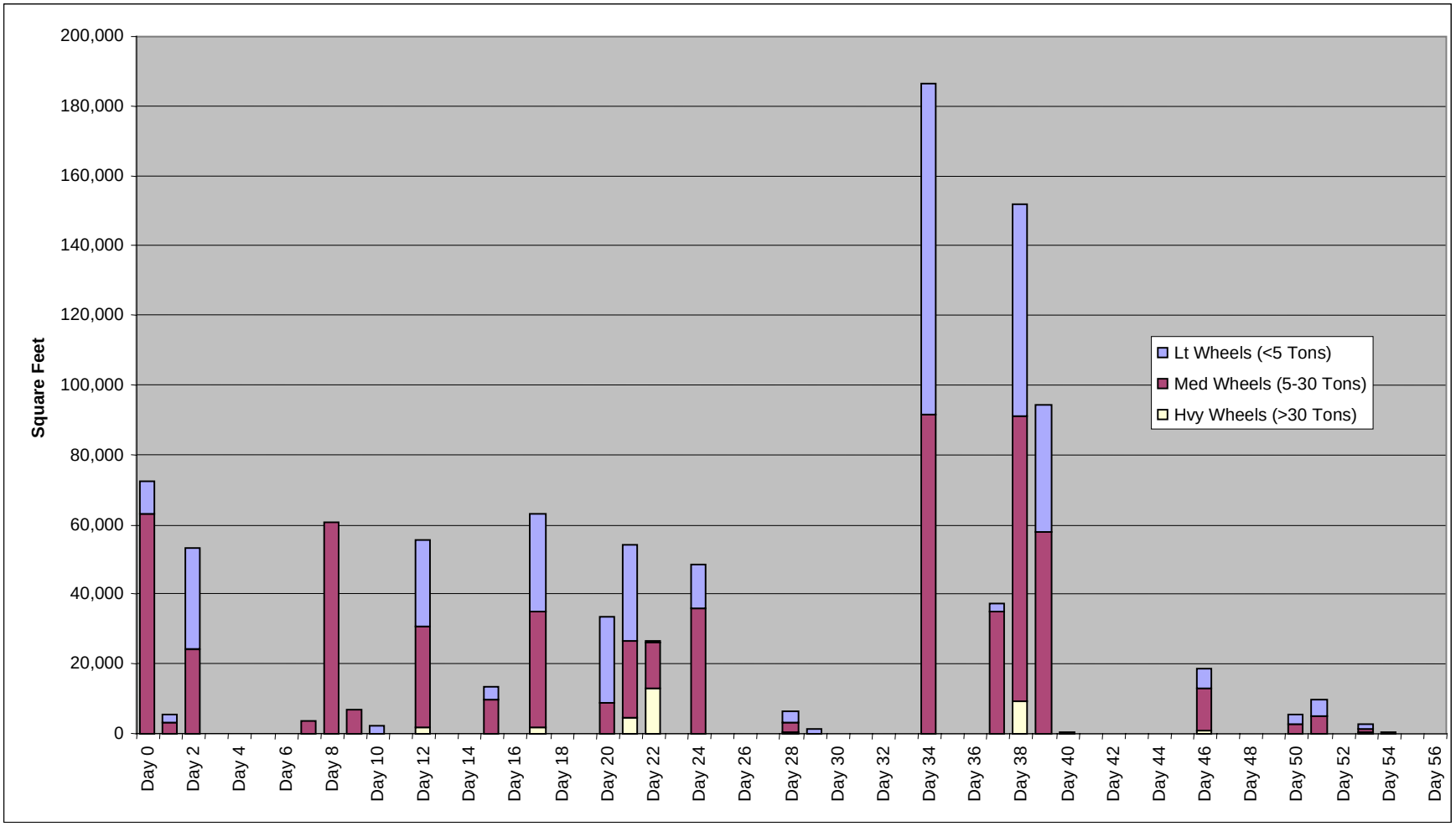

Figure F-14. Square Feet of Wheeled Vehicles Arriving at the Port of Wilmington

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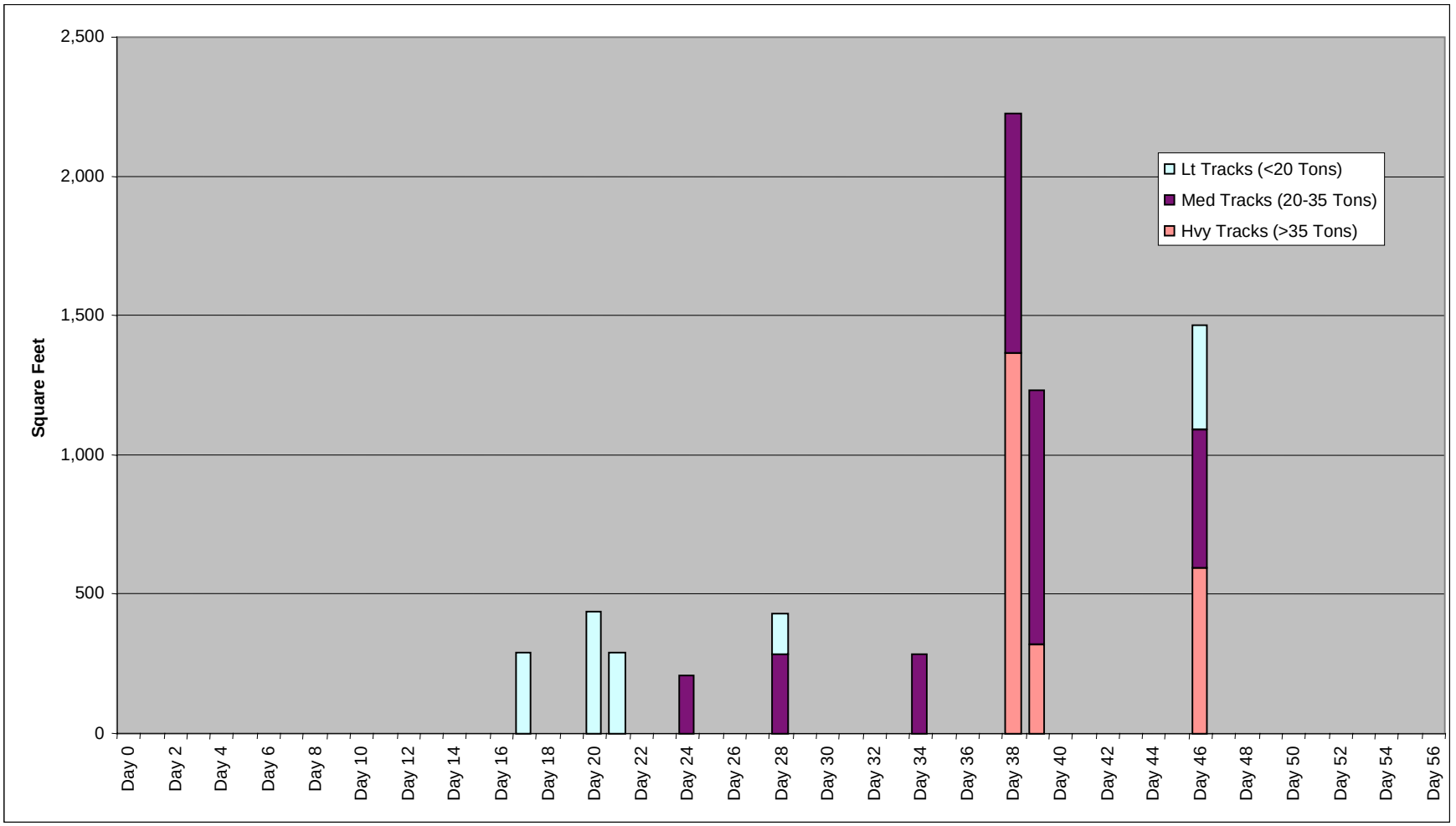

Figure F-15. Square Feet of Tracked Vehicles Arriving at the Port of Wilmington

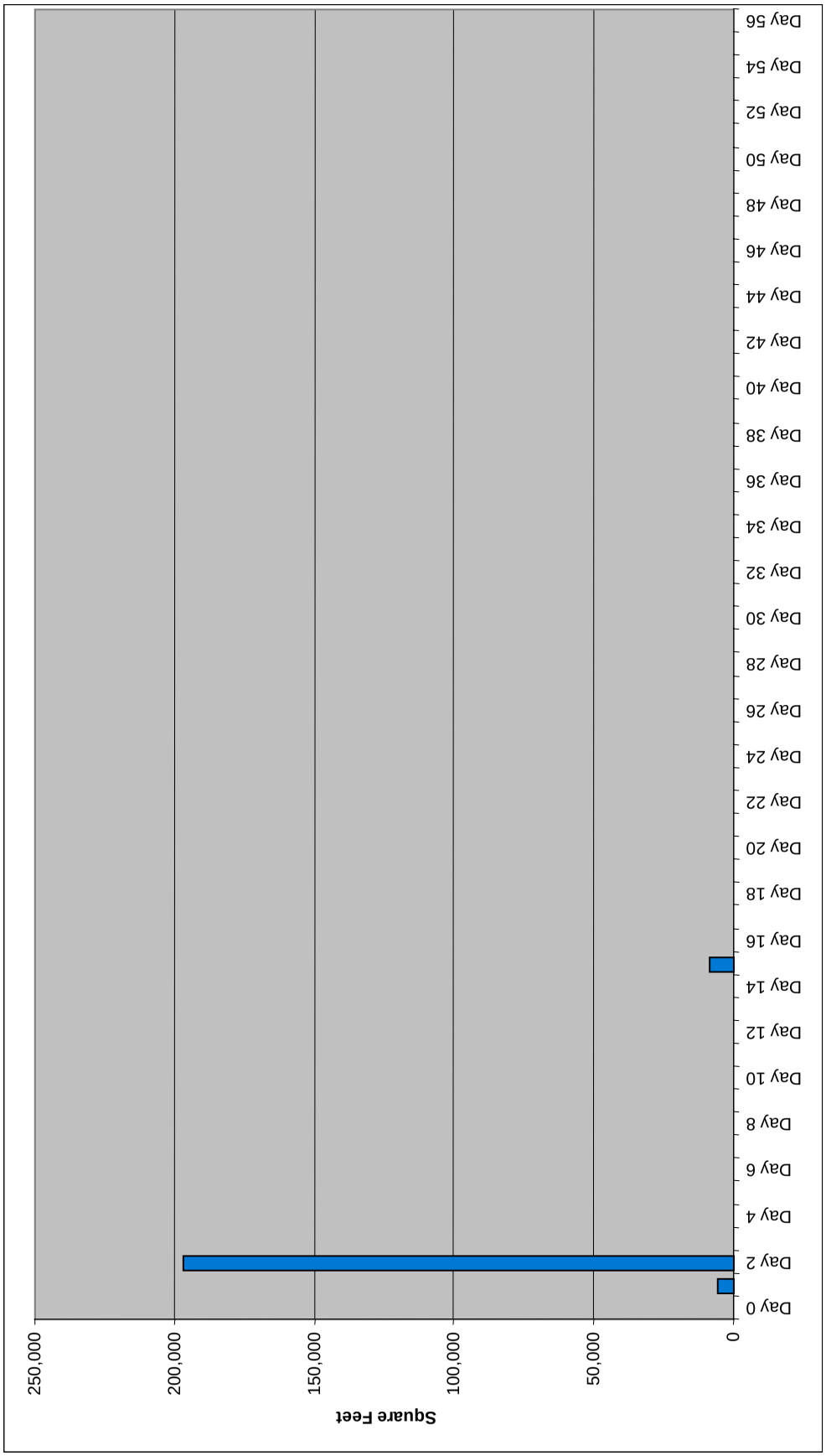

Figure F-16. Square Feet of Aircraft Arriving at the Port of Wilmington

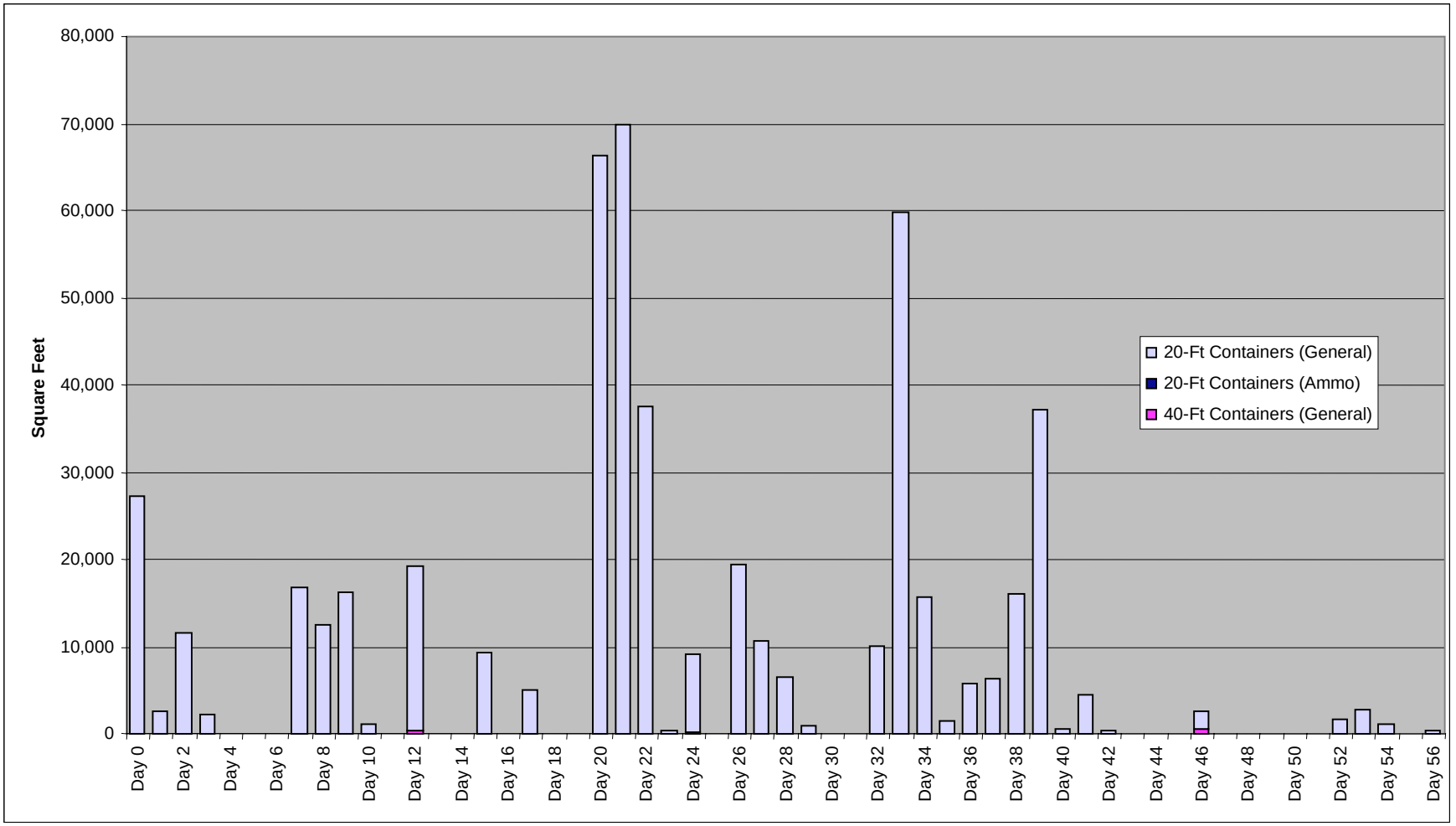

Figure F-17. Square Feet of Containers Arriving at the Port of Wilmington

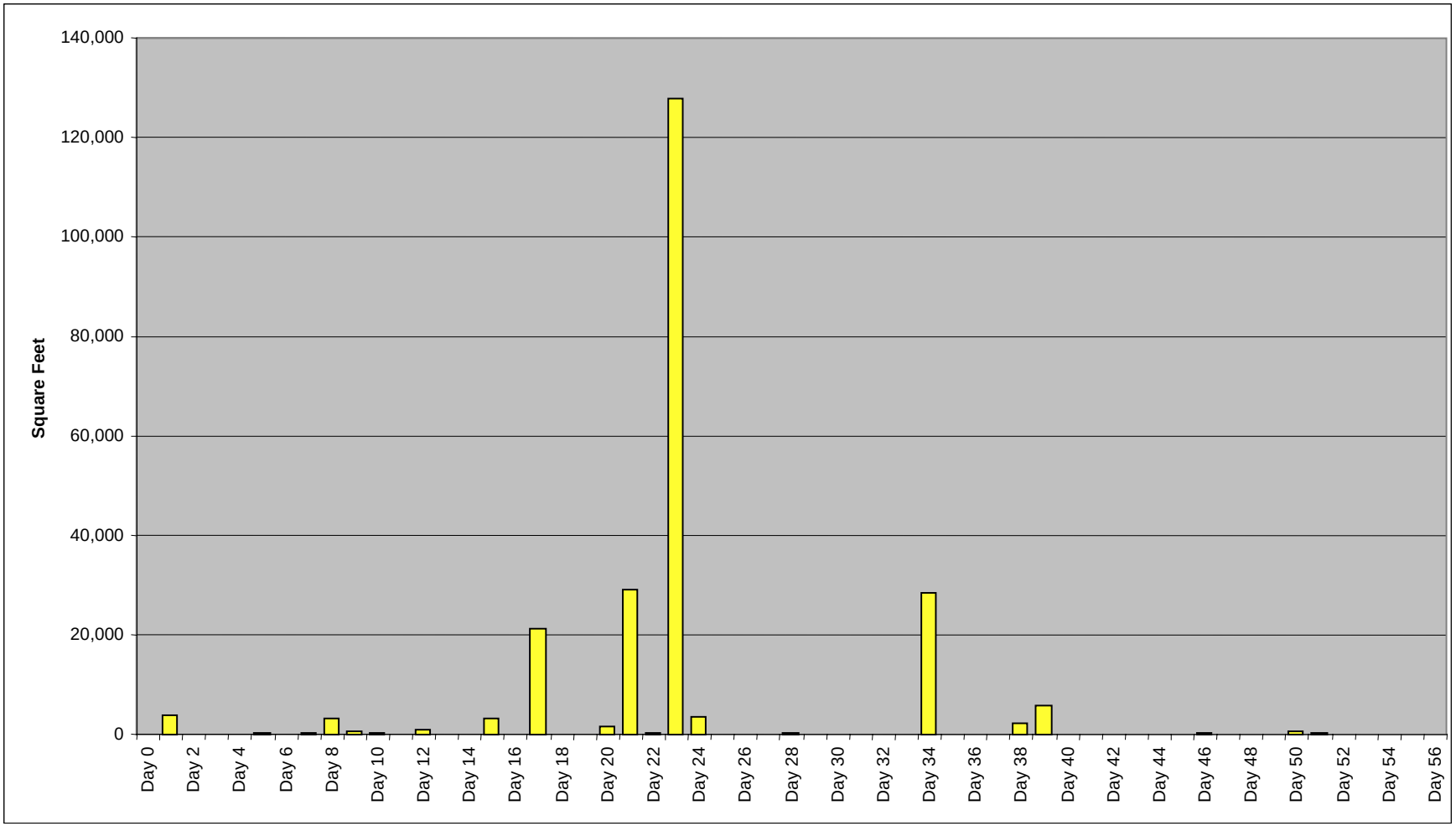

Figure F-18. Square Feet of Breakbulk Cargo Items Arriving at the Port of Wilmington

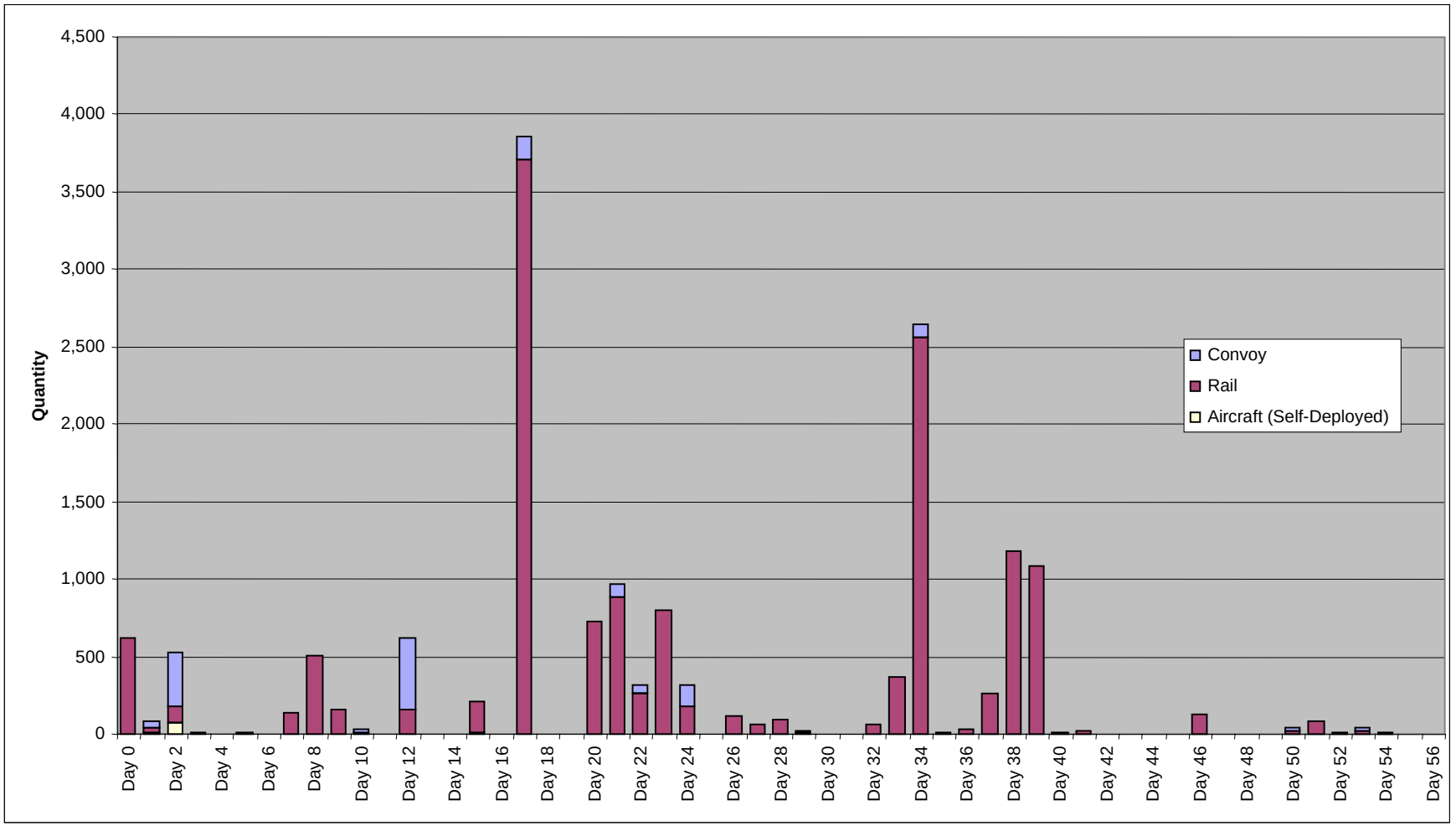

Figure F-19. Quantity of Cargo Items Arriving by Mode to the Port of Wilmington

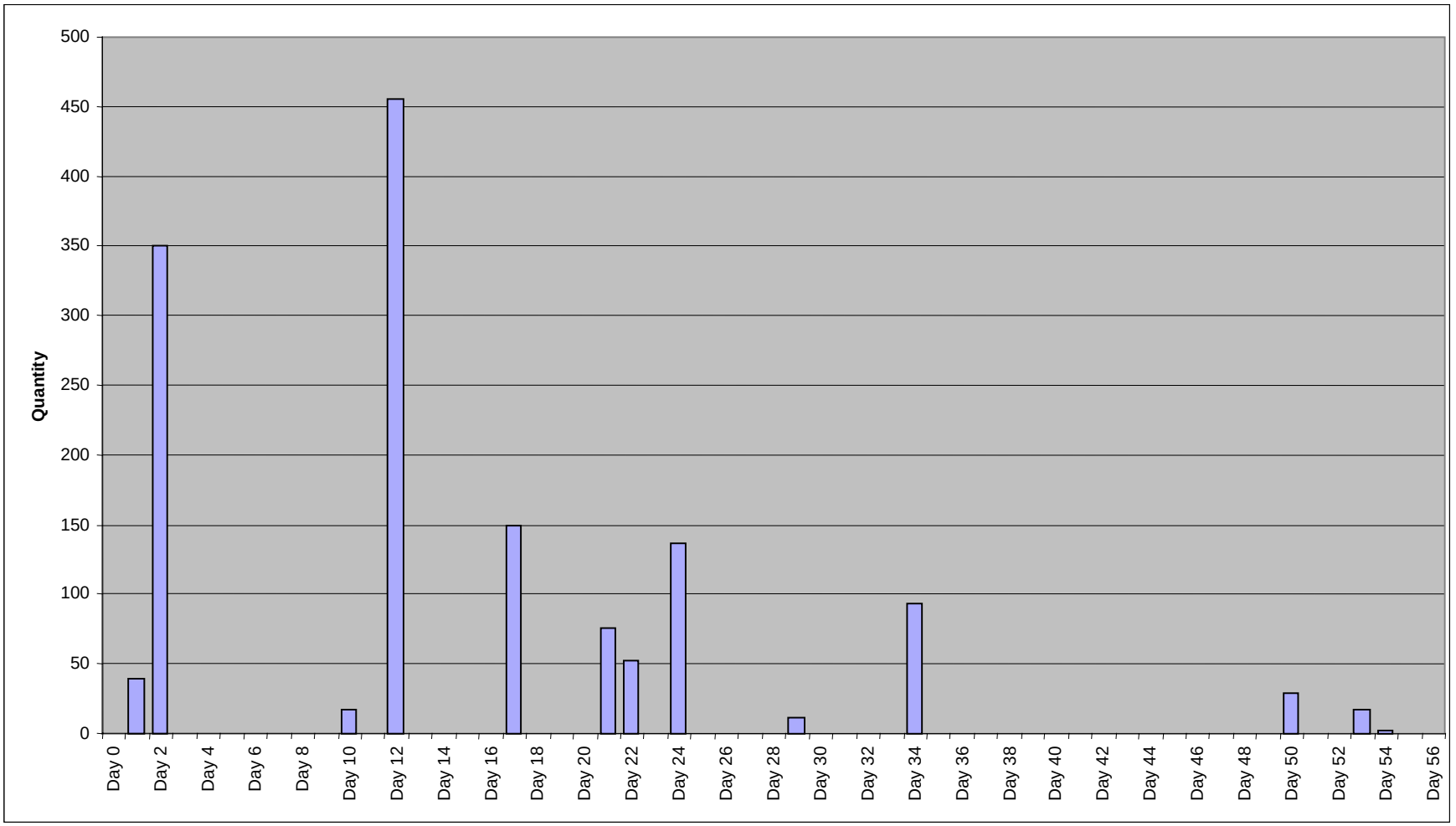

Figure F-20. Quantity of Wheeled Vehicles Convoying to the Port of Wilmington

DRAFT

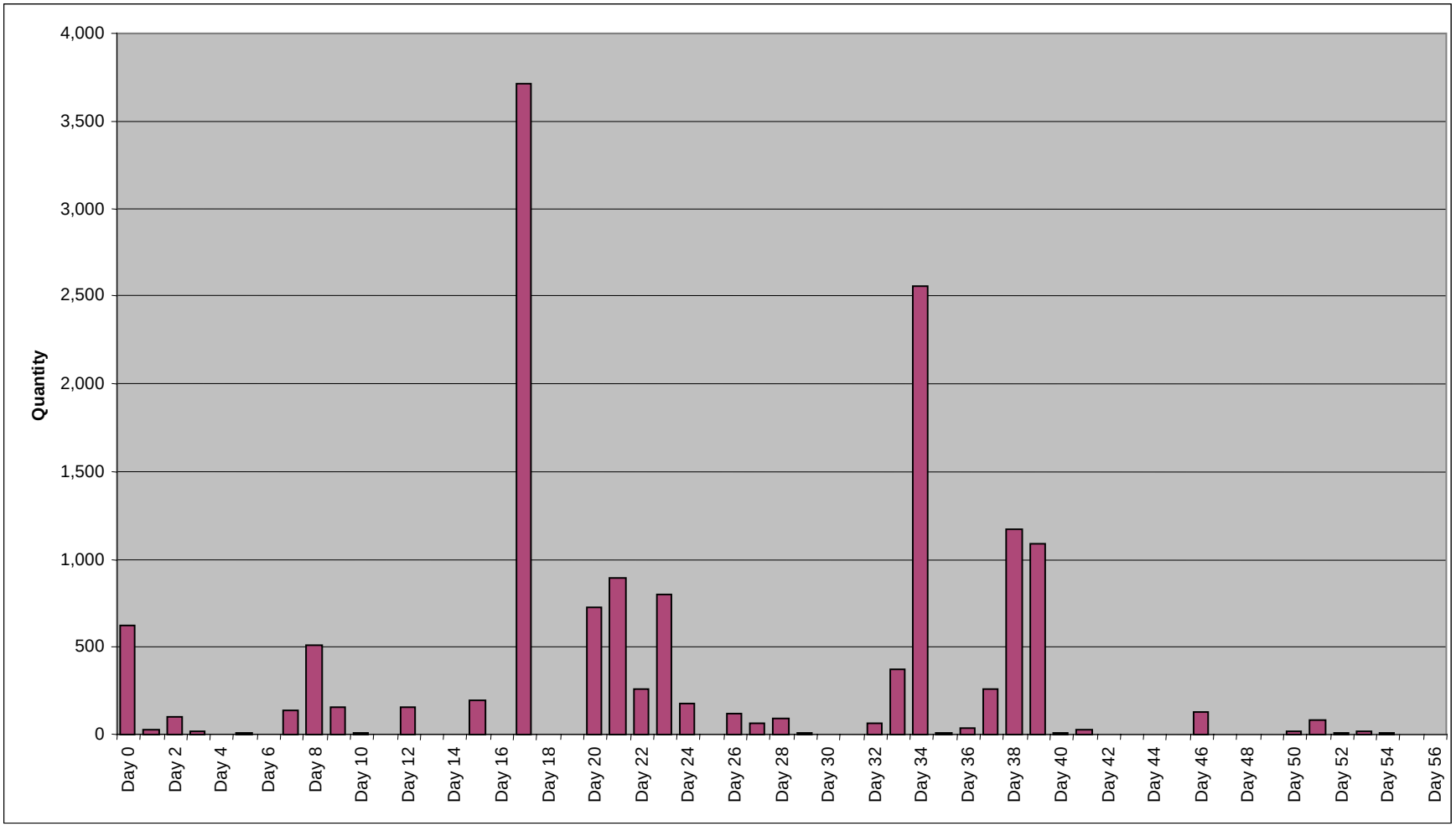

Figure F-21. Quantity of Items Arriving by Rail to the Port of Wilmington

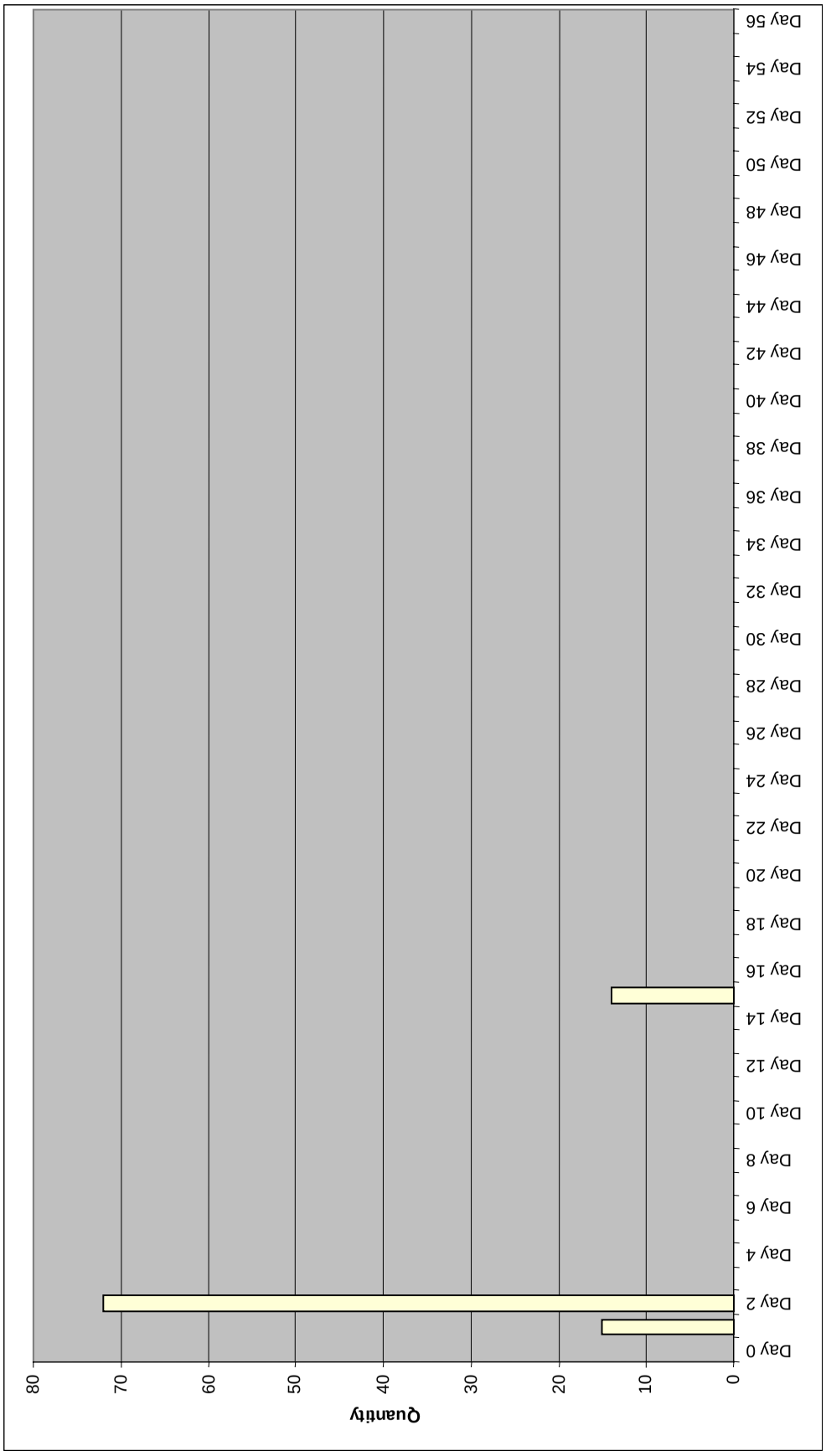

Figure F-22. Quantity of Aircraft Self-Deploying to the Port of Wilmington

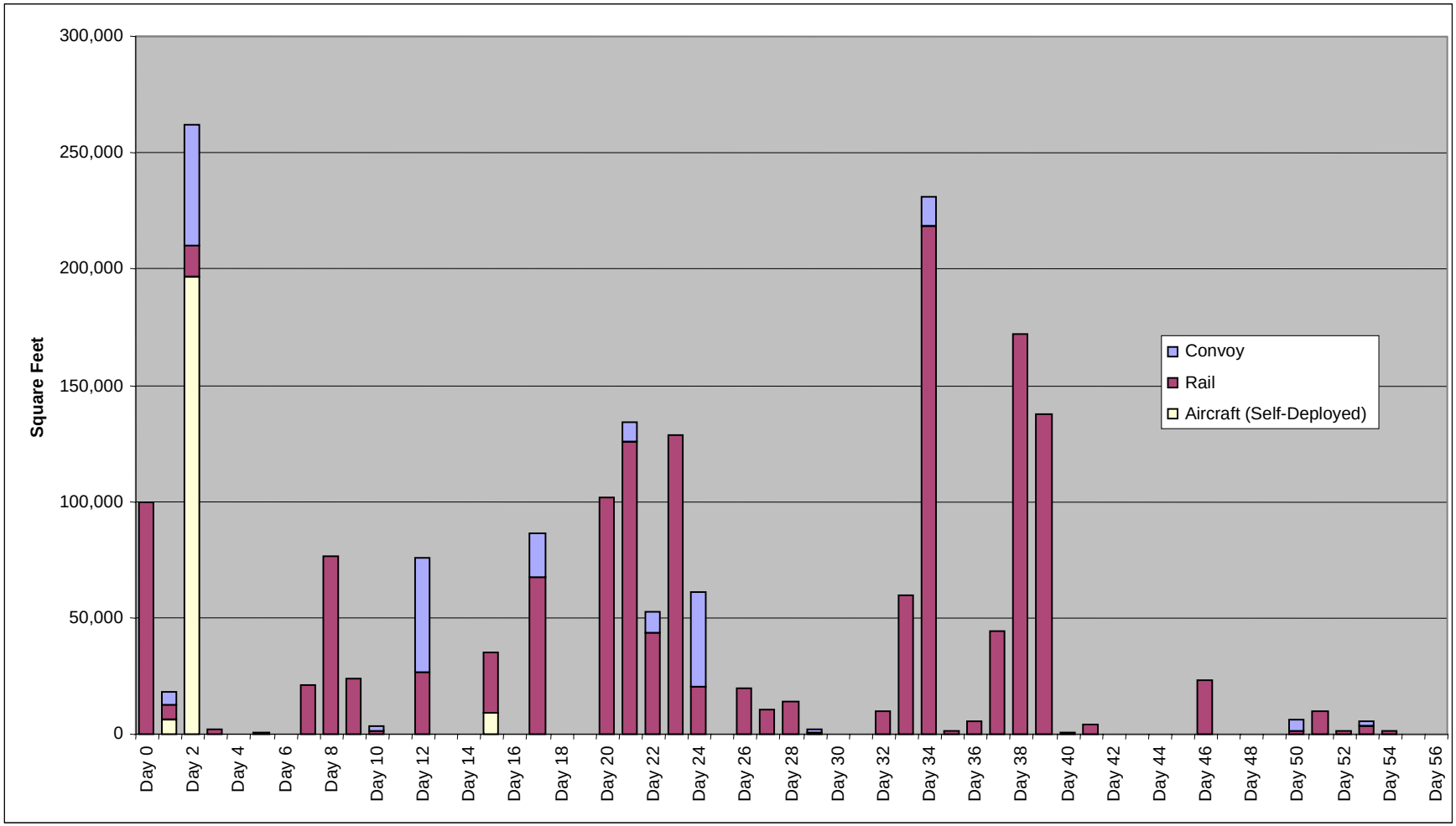

Figure F-23. Square Feet of Cargo Items Arriving by Mode to the Port of Wilmington

DRAFT

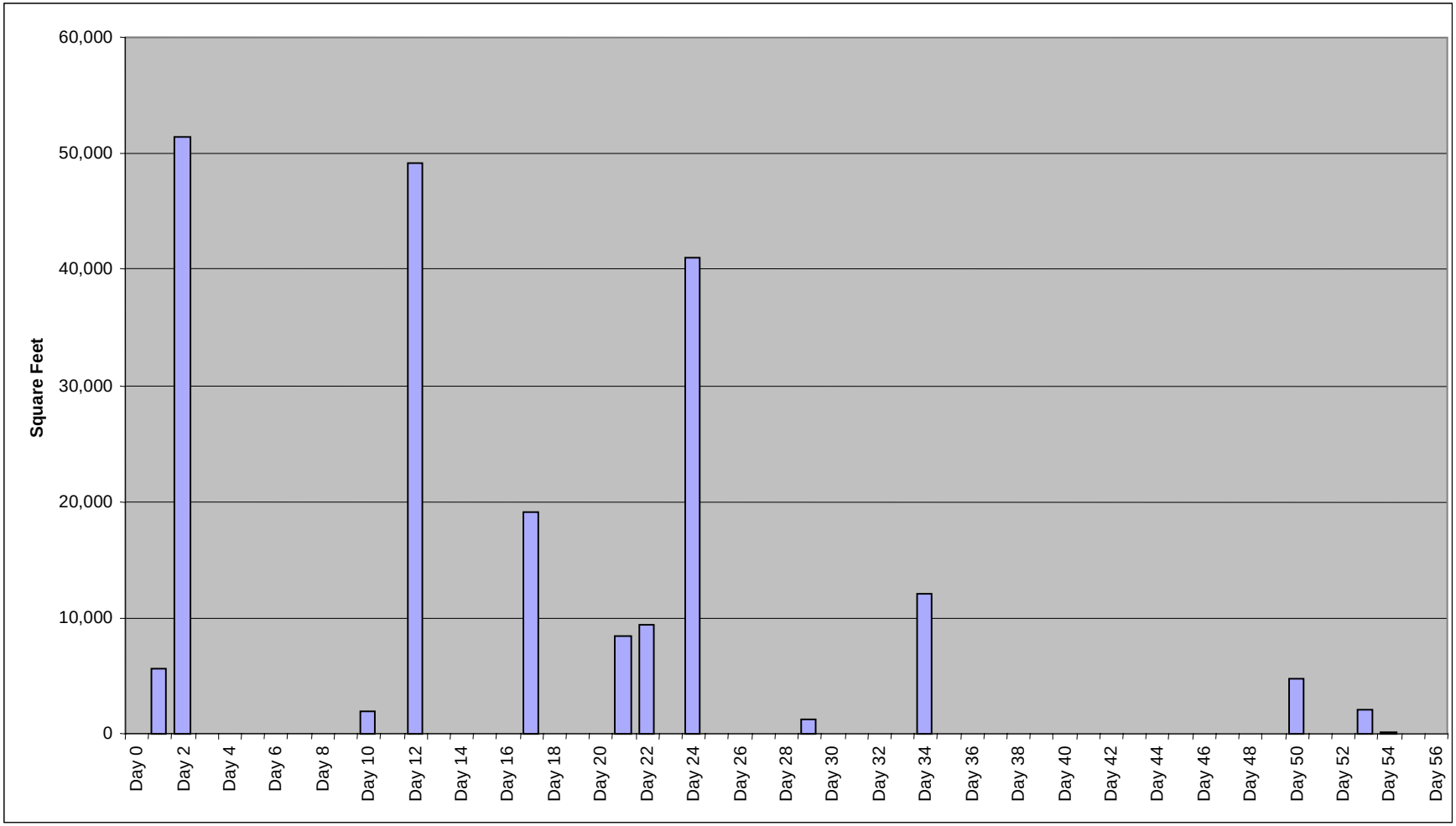

Figure F-24. Square Feet of Wheeled Vehicles Convoying to the Port of Wilmington

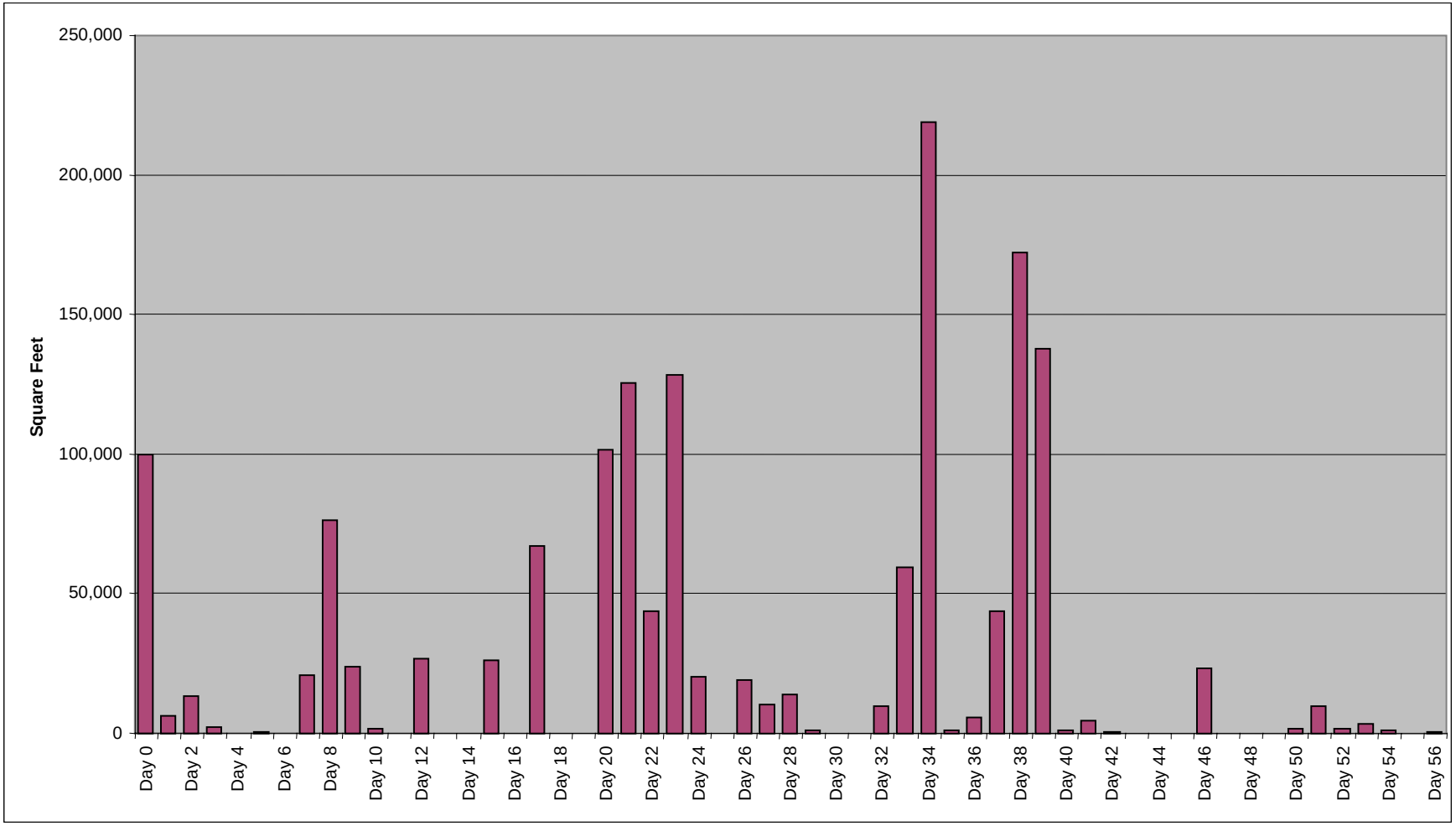

Figure F-25. Square Feet of Cargo Items Arriving by Rail to the Port of Wilmington

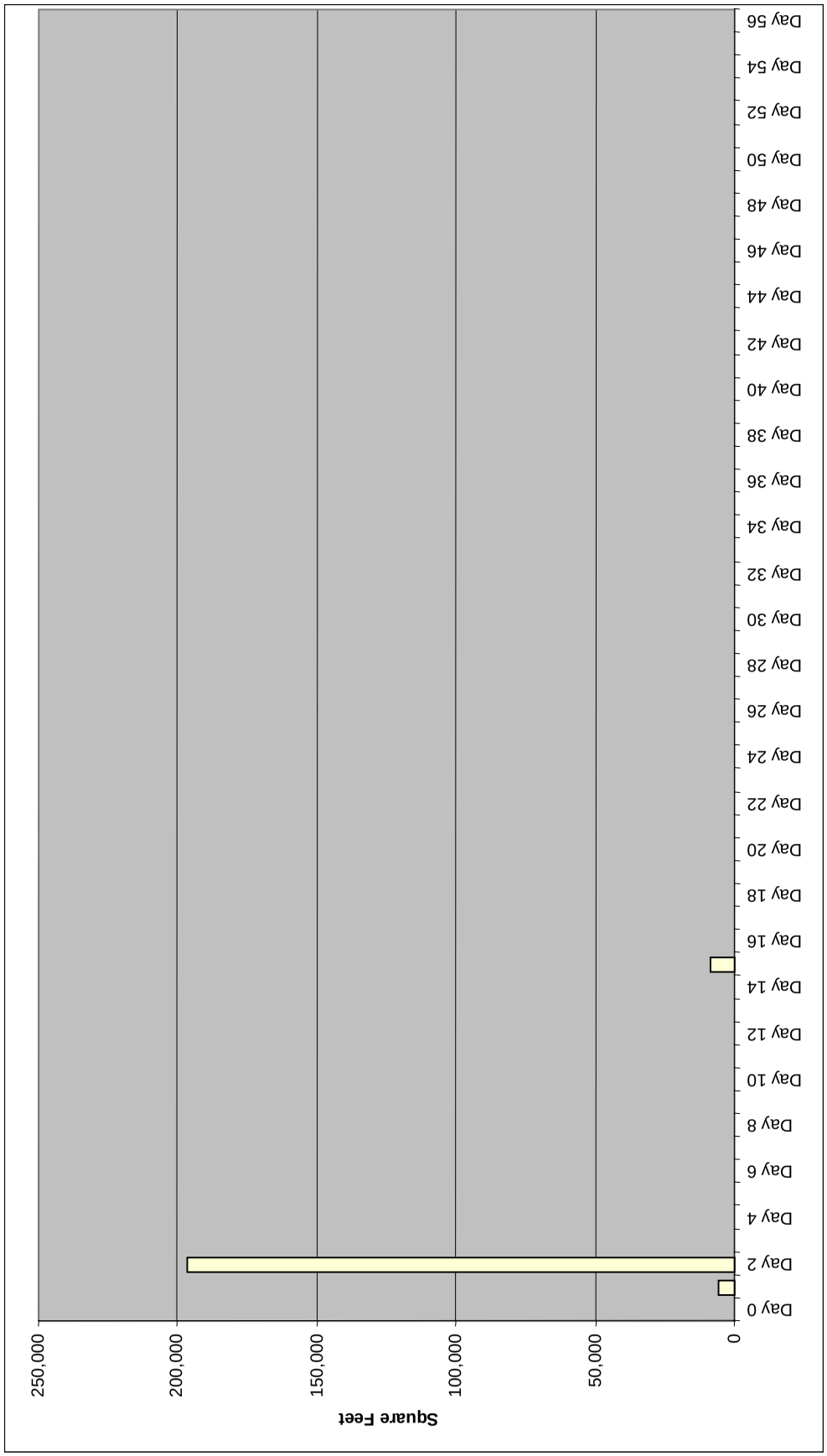

Figure F-26. Square Feet of Aircraft Self-Deploying to the Port of Wilmington

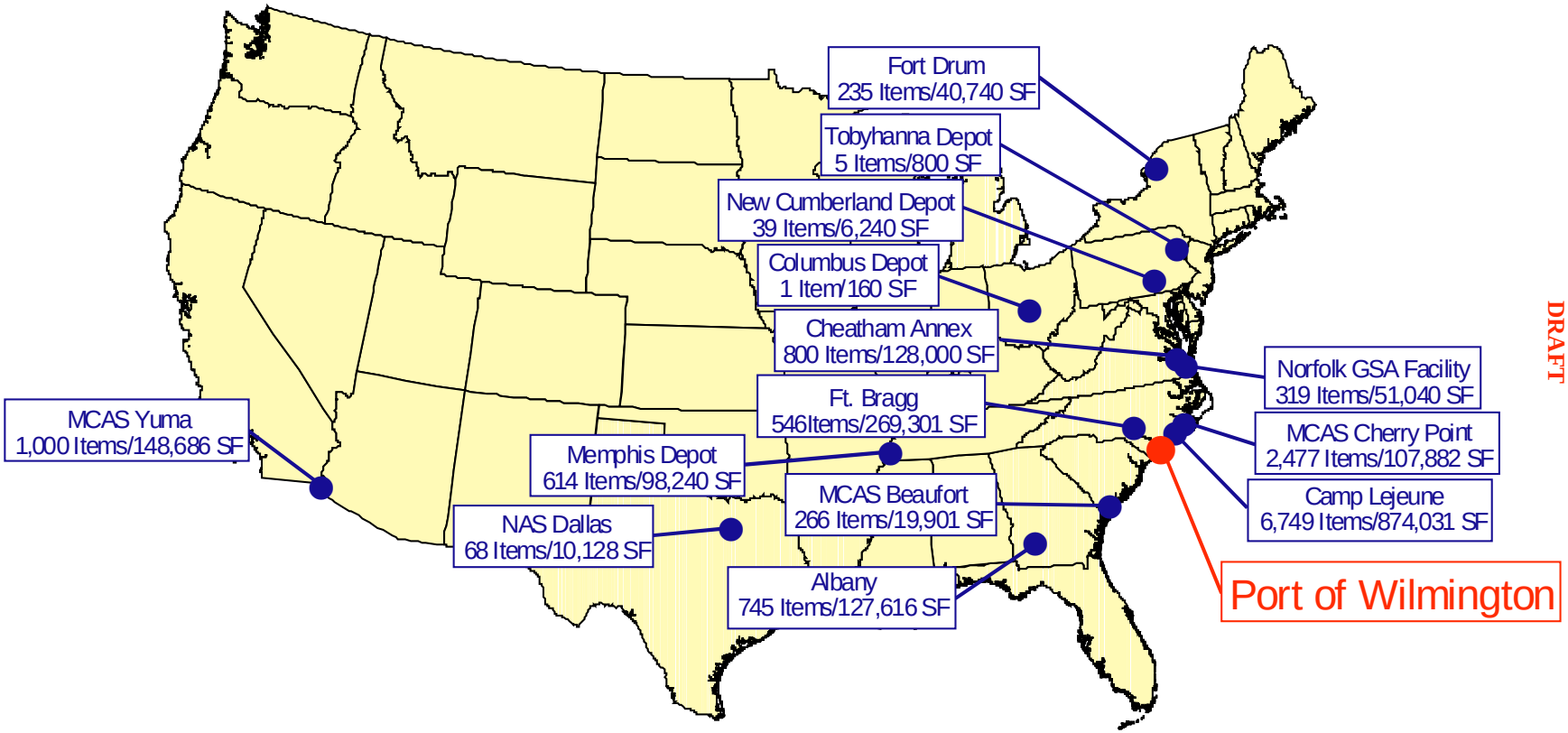

Figure F-27. Amount of Cargo Arriving at the Port of Wilmington by Origin

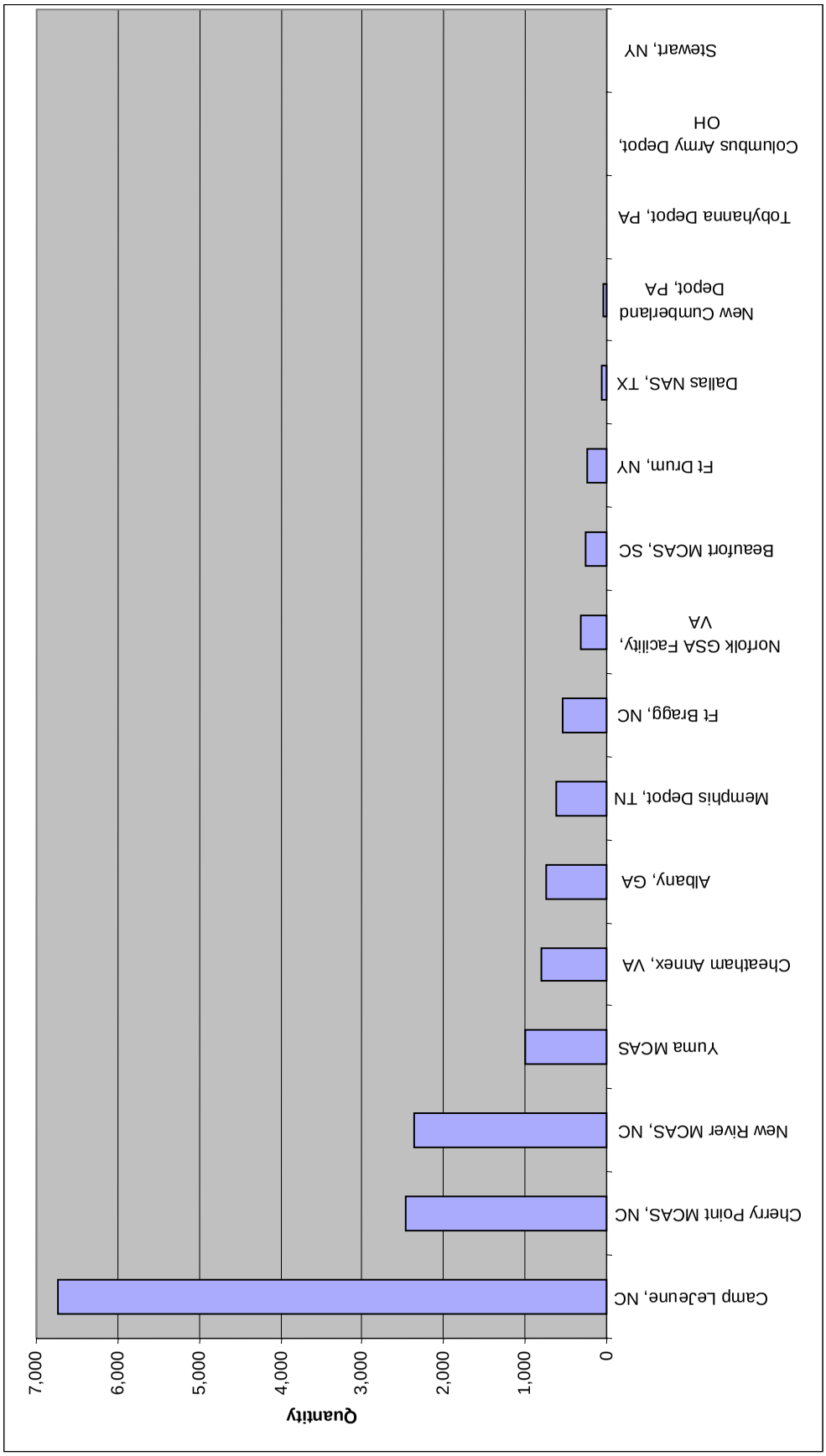

Figure F-28. Quantity of Items Arriving at the Port of Wilmington by Origin

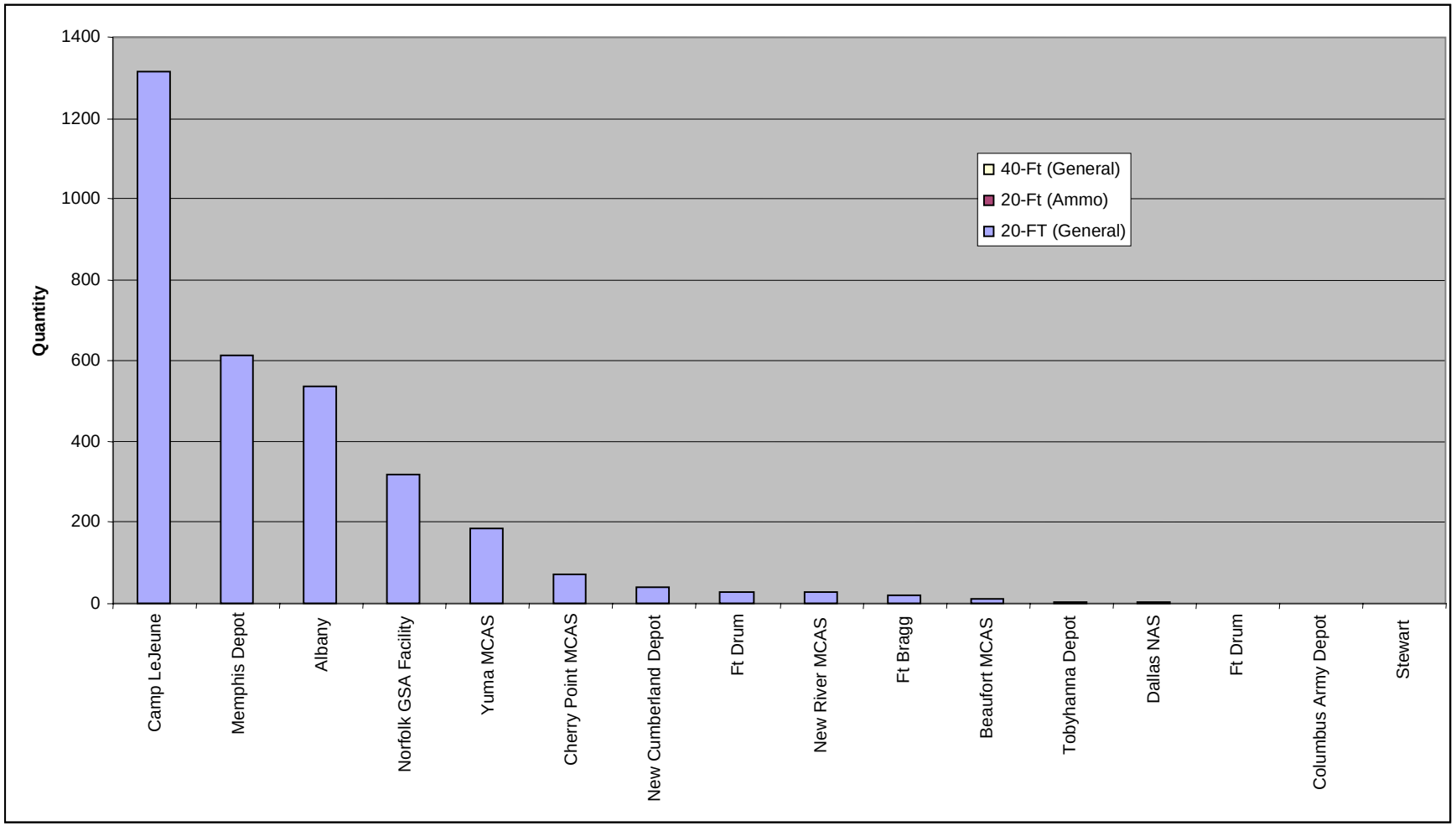

Figure F-29. Quantity of Containers Arriving at the Port of Wilmington by Origin

DRAFT

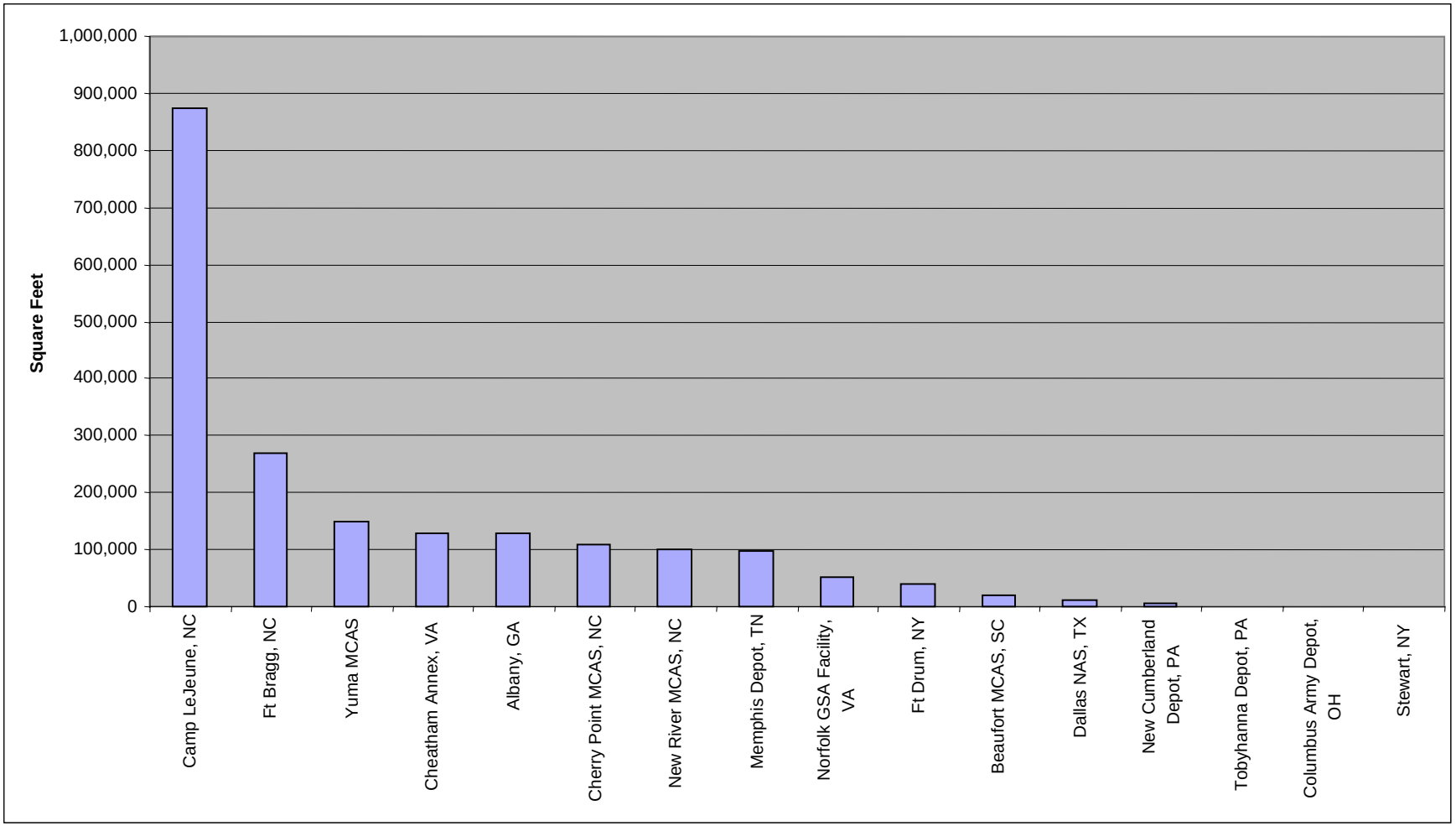

Figure F-30. Square Feet of Cargo Arriving at the Port Wilmington by Origin

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